

TROPICAL AMERICAN DIPTERA OR TWO-WINGED FLIES
OF THE FAMILY DOLICHOPODIDAE FROM CENTRAL
AND SOUTH AMERICA

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The following paper is a report on three collections of Dolichopodidae: one taken by J. M. Aldrich in Guatemala, during May and June, 1926; one by C. T. Greene in the Panama Canal Zone, during March and April, 1926; and the third by Nathan Banks in the Panama Canal Zone, during June, July, and August, 1924. There were a few specimens taken by others among the material studied.

These collections contain 77 species, of which 61 are described as new; there are two new genera. From the large proportion of undescribed forms among them it would seem that there is much work to do before we have even a good general knowledge of the species inhabiting this interesting region.

In using the measurements of tarsal joints there must always be an allowance made for individual variation and also the personal equation, as no two persons seem to measure the joints with just the same result when the measurements are made from pinned specimens, but I think they will give the proportional length of the joints much more accurately than any other method, unless the feet are mounted on a slide.

I wish to express my sincere thanks to Dr. J. M. Aldrich for the privilege of studying the material from the United States National Museum, and to Mr. Nathan Banks for sending me that from the Museum of Comparative Zoölogy.

Genus **PSILOPUS** Meigen

Psilopus MEIGEN, Systematische Beschreibung, vol. 4, 1824, p. 35.—LOEW, Smiths. Misc. Colls., No. 171, 1864, p. 229.—ALDRICH, Trans. Amer. Ent. Soc., vol. 30, September, 1904, pp. 279-286.—VAN DUZEE, Ent. News, vol. 26, January, 1915, pp. 17-26.

PSILOPUS CLAVIPES Aldrich

Psilopus clavipes ALDRICH, *Biologia*, Diptera, vol. 1, 1901, p. 363.

One male was taken by C. M. Rouillard, La Providencia, Siquinala, Guatemala. J. M. Aldrich took many in April, 1926, at the same place, and one at Antigua, Guatemala, May 3, 1926. Nathan Banks took one at Bella Vista, Panama, August 7, 1924.

PSILOPUS PRAESTANS Aldrich

Psilopus praestans ALDRICH, *Biologia*, Diptera, vol. 1, 1901, p. 354.

Four males and one female were taken by J. M. Aldrich, in Guatemala, at La Providencia, Siquinala, April 15 and 16, 1926, and at Quirigua, May 7, 1926.

PSILOPUS CILIIPES Aldrich

Psilopus ciliipes ALDRICH, *Biologia*, Diptera, vol. 1, 1901, p. 355.

Nathan Banks took two at Barro Colorado Island, Panama Canal Zone, June 20 and July 22, 1924; one at Las Sabanas, Panama, July 7; and one at Bella Vista, Panama Canal Zone, August 7, 1924.

PSILOPUS COMATUS Loew

Psilopus comatus LOEW, *Neue Beitr.*, pt. 8, 1861, p. 89; *Mon. North Amer. Dipt.*, pt. 2, p. 262, 1864.

One male taken by Nathan Banks at Fort Davis, Panama Canal Zone, August 7, 1924.

PSILOPUS FORCIPATUS Aldrich

Psilopus forcipatus ALDRICH, *Biologia*, Diptera, vol. 1, 1901, p. 362.

C. T. Greene took one male April 7, 1926, at Ancon, Panama Canal Zone. Nathan Banks took seven males and females, August 8, 1924, at Bella Vista, Panama.

PSILOPUS CHRYSOPRASIUS Walker

Psilopus chrysoprasius WALKER, *List*, pt. 3, 1849, p. 646.—LOEW, *Mon. North Amer. Dipt.*, pt. 2, 1864, p. 265.

One pair, taken by C. T. Greene, March 22 and 28, 1926, at Ancon, Panama Canal Zone.

PSILOPUS PURPUREUS Aldrich

Psilopus purpureus ALDRICH, *Biologia*, Dipt., vol. 1, 1901, p. 362.

Seven males and females were taken by C. T. Greene, March 22 to April 22, 1926, at Ancon, Panama Canal Zone; one male taken by Nathan Banks, August 8, 1924, at Bella Vista.

PSILOPUS DIGITATUS Van Duzee

Psilopus digitatus VAN DUZEE, *Canad. Ent.*, vol. 46, 1914, p. 391.

One male, taken by J. M. Aldrich, April 10, 1926, at Guatemala City, Guatemala; and one male taken by C. M. Rouillard, at La Providencia, Siquinala, Guatemala.

PSILOPUS BILOBUS, new species

Male.—Length 4 mm. Front green; face more blue-green, when viewed from above wholly covered with silvery white pollen, rather narrow, its suture at the middle. Palpi brown, proboscis yellow. Antennae small, bristles on second joint scarcely as long as antenna; third joint rounded; arista dorsal, about as long as the width of the head.

Thorax and abdomen green, shining; pleurae with silvery white pollen, bristles of thorax and abdomen quite short; hairs of the abdomen black, but appearing pale in certain lights; no long pale hairs on the venter. Hypopygium (fig. 1) small, brown, with two long, brown filaments, fringed with long pale hairs; these filaments reach the middle of the venter of third segment from the hypopygium.

All coxae, femora, tibiae, and basitarsi yellow; tarsi from the tip of first joint and a very narrow streak on outer surface of middle coxae black; fore coxae with pale hairs near the base, short black hair on inner surface, outer side nearly bare, with a row of three black bristles on apical half; all femora nearly bare below; fore tibiae without bristle, middle ones with two pair of rather small bristles on upper surface; posterior tibiae with one small bristle near the base on outer side. Fore tarsi (fig. 2) with the second joint narrowed at apical third so as to form a large lobe below at base and a small one at tip; third joint not much longer than wide; apical joint of hind tarsi a very little flattened and widened, but only enough to appear rather stout; joints of fore tarsi as 72-21-7-22-8; those of middle ones as 77-29-21-9-6; joints of posterior tarsi as 48-22-14-11-9. Calypters yellow with a narrow black margin and black cilia, which appear pale in certain lights.

Wings (fig. 3) wide and rather short, grayish; costa without cilia; cross vein perpendicular to fourth vein; fourth vein from cross vein to fork 42, from fork to wing margin 22, cross vein 22, last section of fifth vein fifteen-fiftieths of a millimeter long.

Described from one male, taken by Nathan Banks, July 5, 1924, at Fort Davis, Panama Canal Zone.

Type.—In the Museum of Comparative Zoölogy.

PSILOPUS LONGIPES, new species

Male.—Length 4 mm.; of wing about the same. Face and front green with blue reflections, face covered with white pollen when

viewed from above, its suture below the middle; palpi and proboscis yellow. First two antennal joints yellow, third dark brown, about as long as wide; longest bristles on second joint about half as long as the antenna; arista dorsal, scarcely as long as width of head.

Thorax and abdomen green; dorsum of thorax with blue reflections, its bristles black and rather short; scutellum with one pair of bristles; pleuræ covered with silvery white pollen, the posterior edge mostly yellow; venter yellow, except on apical segments. Hypopygium brown, not very large, with a pair of long slender appendages, which are about as long as third joint of middle tarsi and fringed with long hairs.

All coxæ yellow, middle ones largely brown on outer surface; fore coxæ with small white hairs and with yellow bristles at tip; posterior coxæ with one yellow bristle; all femora and tibiae wholly yellow, the former almost bare below, the latter almost without bristles, except a small one on middle pair; fore and middle tarsi long and slender, especially the first joint, yellowish at base, but mostly brown; hind tarsi black; middle basitarsus somewhat ciliated but the hairs very short, fifth joint slightly flattened; joints of fore tarsi as 145-32-20-17-7; of middle ones as 127-48-41-26-10; first four joints of posterior pair as 109-42-26-12. Calypters yellow with a narrow black edge and yellow cilia. Halteres yellow. Wings (fig. 4) grayish, long; costa ciliated with very delicate pale hairs; first vein reaches about one third the length of the wing; last section of fifth vein 18, cross vein forty-seven fiftieths of a millimeter long.

Female.—Very much like the male; suture of the face near the middle. Tarsi nearly as slender as in the male, but shorter.

Described from one pair taken by Nathan Banks, at Bella Vista, Panama.

Type.—Male, August 8; *allotype*, female, July 6, 1924. Both in the Museum of Comparative Zoölogy.

PSILOPUS SEMICOMATUS, new species

Male.—Length 4 mm.; of wing the same. Face narrowed below, green, the suture near apical third, lower part with coarse gray pollen on the sides and along the front edge. Front blue with violet reflections and long pale hair; palpi and proboscis black. Antennæ black, bristles on second joint one and a half times as long as the antenna; third joint a little pointed at tip; arista nearly apical, about as long as the abdomen.

Thorax green with blue and violet reflections; scutellum blue with two pairs of large bristles; bristles of thorax and abdomen large. Abdomen green with blue reflections, last two segments more coppery. Hypopygium (fig. 5) brown with a long, nearly cylindrical peduncle, the lamellæ large, somewhat leaf-like; yellow; there are two bristles,

composed of several long hairs at tip of abdomen, these are as long as the last three segments taken together.

Coxae and femora green, fore coxae with white hair and two black bristles; all femora with long pale hairs below, extreme tips of fore and middle femora brown; all tibiae and fore and middle tarsi yellow, tips of fore and middle tarsi, the whole of posterior tarsi and extreme tips of hind tibiae black. Fore tibiae with four bristles of rapidly increasing length, the last about three-fourths as long as the tibia; middle tibiae with two long bristles above and three very short ones below. First joint of fore tarsi (fig. 6) with eight very long bristles of increasing length; second and third joints each with one long slender bristle near the tip; middle and hind tarsi slender, plain; joints of fore tarsi as 89-35-30-18-6; those of middle ones as 107-36-28-12-8; joints of posterior pair as 87-29-21-14-7. Calypters and their cilia black; knobs of halteres yellow.

Wings grayish; costa with only very short hair; first vein reaching to the middle of the wing; cross vein oblique; fork of fourth vein extending backward, the angle being less than a right angle; cross vein 50, last section of fifth vein 21, fourth vein from the cross vein to the fork 37 and from the fork to wing margin twenty-fiftieths of a millimeter long.

Female.—Five females taken at the same place and day as one of the males described above, agree with the males in the form of the face, antennae, venation of wings and color of the coxae, femora and tibiae; the fore and middle tarsi are brownish toward their tips; the hairs on second antennal joint are about as long as the antenna; fore femora with long bristly hairs like those of the male, longer than the second joint of middle tarsi; fore and middle tibiae each with three long bristles; fore basitarsus without cilia or long hair, but with a few minute spines; joints of fore tarsi as 74-22-16-12-7; those of middle ones as 74-28-17-9-6; joints of posterior pair as 69-26-16-11-6.

Described from two males and six females, taken by J. M. Aldrich, April 14 and 16, 1926, at La Providencia, Siquinala, Guatemala; and one male taken at the Tropical Research Station, New York Zoological Society, British Guiana, the last returned to the American Museum, New York.

Type.—Male, Cat. No. 41028, U.S.N.M.

This form is very much like *comatus* Loew; the form of the hypopygium, face and fore tarsi, and the venation of the wings are the same, but this has two stouter and shorter bristles on middle tibiae and no cilia at all on middle tarsi; in *comatus* there are three bristles on middle tibiae of rapidly increasing length, the last one very long and slender, and the middle basitarsi have long conspicu-

ous cilia on the whole of their upper surface, which extend along the following joints although much shorter.

PSILOPUS PLANIPES, new species

Male.—Length 4 mm. Face green, a little narrowed below; when seen from above it is nearly covered with silvery white pollen. Front shining green. Palpi very small, black; proboscis yellow. First two antennal joints black (third missing in type); longest bristle on second joint but little longer than diameter of joint.

Thorax and abdomen shining green with bronze reflections; the first three incisures at base of abdomen narrowly yellowish; bristles of thorax and abdomen short; scutellum with one pair of bristles; posterior edge of pleurae narrowly yellow. Hypopygium (fig. 7) small, brown, with two narrow brown appendages projecting downward and fringed with long hairs.

All coxae, femora and tibiae wholly yellow, tarsi yellow with last joint black; fore coxae nearly bare, with black bristles at tip; bristles on outer surface of posterior coxae yellow; anterior and posterior tarsi plain, without bristles or long hair; joints of fore tarsi as 56-21-14-10-6; first joint of middle ones as 87; joints of posterior pair as 62-28-12-9-5. Calypters yellow with brown tips and yellow cilia; halteres yellow.

Wings grayish; costa with rather conspicuous, delicate, recumbent hair; venation as in *bilobata*, new species; fourth vein from the cross vein to the fork 44, from the fork to the wing margin 22, last section of fifth vein 18 and the cross vein twenty-four fiftieths of a millimeter long.

Described from one male, taken by Nathan Banks, July 8, 1924, on Mount Hope, Panama Canal Zone.

Type.—In the Museum of Comparative Zoölogy.

PSILOPUS MENSOR, new species

Male.—Length 3.5 mm.; of wing 4 mm. Front and face purple, the latter with a little brownish pollen, that around the edge more white, suture near apical third, curved so as to make the lower portion nearly round. Palpi black, proboscis brown. Antennae black, third joint small, brown, bristles of second joint a little longer than the antenna; arista dorsal, scarcely as long as the width of the head.

Dorsum of thorax and scutellum purple, pleurae partly yellowish, bristles of thorax moderately long. Abdomen purple with the incisures narrowly blue-green, its bristles slender and rather short. Hypopygium brown with brown appendages, which are slender and about as long as the hypopygium.

Fore coxae, all tibiae, fore and middle femora, first three joints of fore tarsi and first joint of middle tarsi yellowish brown; middle and hind coxae, hind femora and tarsi mostly black or metallic; all femora with long white hair below; fore coxae with quite long white hair on inner anterior surface and two black bristles on outer anterior edge; fore tibiae with four rather small bristles above; middle tibiae with a row of about fourteen bristles of about equal length; fore tarsi (fig. 8) with the fifth joint nearly round, first joint with three bristles; middle tarsi (fig. 9) with a row of hairs having their tips slightly enlarged, extending the whole length of the first two joints, also four stout bristles on first joint; hind tarsi (fig. 10) with the last three joints flattened and widened, the last two (fig. 11) arched and provided with bristles below, seemingly to form a grasping organ; joints of fore tarsi 57-19-13-7-4; middle ones as 114-20-15-6-5; joints of posterior pair as 74-15-6-10-11, width of fifth joint as 8. Halteres and cilia of the calypters black.

Wings grayish; venation about as in *longipennis*; fourth vein from the cross vein to the fork 53, from fork to wing margin 20, last section of fifth vein 13, and cross vein thirty-three fiftieths of a millimeter long; first vein reaching the middle of the wing.

Described from one male taken by Nathan Banks, July 6, 1924, at Bella Vista, Panama Canal Zone.

Type.—In the Museum of Comparative Zoölogy.

PSILOPUS BICOLORIPES, new species

Male.—Length 4 mm.; of wing 4.5 mm. Face green, wide above, narrow below, almost without pollen, its suture near apical third. Palpi and proboscis black with pale hair. Front mostly blue or violet. First two antennal joints black (third missing in type); longest bristle on second joint about twice as long as width of joint.

Dorsum of thorax green with violet reflections, dulled with a little brownish pollen; pleurae largely yellow or yellowish brown. Abdomen green, first segment and narrow incisures of following segments blue; bristles of thorax and abdomen moderately long. Hypopygium, small, brown, its lamellae (fig. 12) large, thin, whitish with a brown border (partly folded in the drawing), and having irregular projections and hairs on the edge.

All coxae, femora, and middle and hind tibiae and tarsi brownish, fore tibiae and tarsi yellow; fore coxae with long white hair; all femora with long white hair below; fore tibiae with six slender bristles of increasing length on anterior surface; middle tibiae with three bristles, the one near the middle and one near apical third nearly as long as the second joint of middle tarsi; posterior tibiae with long hair and a row of about seven slender bristles on anterior surface of basal half, which are twice as long as the diameter of the

tibia; fore and middle tarsi with snow-white hairs on lower surface of last two joints, those on middle tarsi very conspicuous; joints of fore tarsi as 84-23-17-10-7; those of middle ones as 107-27-20-10-6; joints of posterior tarsi as 71-24-17-10-8. Calypters and halteres brown, the former with black cilia.

Wings grayish; first vein reaching nearly to the middle of the wing; venation very much like that of *longipennis*, new species, except that the fork of fourth vein is at nearly right angles to fourth vein, not being bent backward.

Described from one male, taken by Nathan Banks, August 8, 1924, at Bella Vista, Panama Canal Zone.

Type.—In the Museum of Comparative Zoölogy.

PSILOPUS LONGIPENNIS, new species

Male.—Length 5.2 mm.; of wing 6 mm. Face dark green with a little brown pollen at lower edge, the suture a little above the middle. Front shining green with blue reflections, especially below. Palpi and proboscis black. Antennae black, short, bristles of second joint but little longer than its width, third joint rounded; arista nearly apical, as long as width of head.

Thorax blue-green; scutellum with two pair of bristles. Abdomen green with basal half of second, third, and fourth segments dull black, fifth and sixth segments mostly brown; bristles of thorax and abdomen moderately long. Hypopygium brown, lamellae (fig. 13) black with the base yellowish, they are enlarged at tip with a broad notch on one side and a few long hairs at tip.

Coxae and femora black, fore coxae and lower surface of all femora with long white hair; fore and middle tibiae dark yellow, posterior pair more brown; all tarsi brown or black; tibiae almost without bristles, posterior ones with conspicuously long hair; last joint of fore tarsi a very little widened; second, third and fourth joints of hind tarsi slightly enlarged, so as to appear thick; middle basitarsus (fig. 14) with little bristles on one edge, which are rather scattering and on the other edge a close-set row of blunt and slightly clavate hairs, which are shorter than the bristles on the other side; joints of fore tarsi as 108-30-26-14-11; of middle ones as 141-27-22-11-6; those of posterior pair as 100-21-21-15-10. Calypters brownish, their cilia black; knobs of halteres yellow.

Wings (fig. 15) grayish; long and rather narrow; costa with rather long recumbent hair; first vein reaching nearly to the middle of the wing; fourth vein from the cross vein to the fork 74, from fork to wing margin 28, cross vein 48, and last section of fifth vein twenty-three fiftieths of a millimeter long.

Described from a male taken by Nathan Banks, August 1, 1924, at Barro Colorado Island, Panama Canal Zone; he also took another,

which is probably the same species but is badly broken, at Ancon, Panama Canal Zone, August 6, 1924.

Type.—In the Museum of Comparative Zoölogy.

PSILOPUS CYLINDRICUS, new species

Male.—Length 3.5 mm.; of wing 2.6 mm. Face and front green with blue reflections, face covered with silvery white pollen when seen obliquely, its suture a little below the middle; front with a few yellow hairs on upper orbits, palpi small, black; proboscis yellow. Antennae black, third joint small, rounded, one bristle on second joint about as long as the antenna; arista dorsal, not as long as width of head.

Thorax and abdomen shining green, scutellum and first two abdominal segments mostly blue; thorax with a very little white pollen along the front; scutellum with two pairs of large bristles; bristles of thorax rather large, those of abdomen short, except on last two segments; venter green with a few short pale hairs. Hypopygium (fig. 16) small with rather long, black lamellae.

Fore coxae, all femora and tibiae yellow; fore coxae with short white hair and two black bristles; middle and hind coxae and tips of hind femora black; all femora with long pale hairs below, which are not as long as their width; fore tibiae with two small bristles below and two still smaller ones above; middle tibiae with several small bristles; hind tibiae a little brown at tip, with two small bristles on upper anterior edge, tarsi brown, plain; joints of fore tarsi as 50-24-20-10-9; those of middle ones as 67-21-16-9-6; joints of posterior pair as 54-23-15-11-9; calypters yellow with black tips and cilia; knobs of halteres yellow.

Wings grayish; costa with very short recumbent hairs; fork of fourth vein at nearly right angles to fourth vein, distance from fork to cross vein 38, from fork to wing margin 24, last section of fifth vein 18 and cross vein thirty-one fiftieths of a millimeter long; first vein reaching about two-fifths of the length of the wing.

Described from one male, taken by Nathan Banks in 1924 at Gamboa, Panama Canal Zone.

Type.—In the Museum of Comparative Zoölogy.

PSILOPUS ANGUSTATUS, new species

Male.—Length 6.7 mm.; of wing 6 mm. Face a little narrowed below, green with violet or blue reflections, lower part almost wholly blue, suture slightly above the middle. Palpi black, proboscis yellowish brown. Front violet with black hair on upper half, which is quite long next to the orbits. Antennae black, first joint brown below; second joint with only a few bristles, the longest being scarcely longer

than the diameter of the joint; third joint small, rounded; arista dorsal, scarcely as long as the width of the head.

Thorax green, posterior half of dorsum and the scutellum with blue reflections; scutellum with two pair of large bristles; bristles of thorax and abdomen short; first abdominal segment violet on posterior portion, the other segments green with blue reflections, except the fourth, which is green with bronze reflections, last segment mostly blue posteriorly; second segment with a black crossband, the following ones black at base, the black becoming wider on each succeeding segment. Hypopygium (fig. 17) black with brown appendages, the outer appendages with four bristles on inner edge and many fine hairs on outer edge.

Coxae and femora black; fore coxae with moderately long white hair and two black bristles; all femora with long pale hairs below; fore and middle tibiae dark yellow, posterior pair yellowish brown; fore tibiae with a few slender bristles on lower posterior edge, four of which are quite long; middle and hind tibiae with one small bristle near the base; tarsi black; middle basitarsi with short, clavate hairs below, which extend up the tibiae and are shorter than the hairs on upper surface; hind tarsi with last three joints slightly flattened and widened; joints of fore tarsi as 97-33-26-18-9; those of middle ones as 135-30-26-11-6; joints of posterior pair as 110-28-20-17-10. Calypters, their cilia and the halteres black.

Wings grayish, with the usual crossbands large, united along the costa as far as the third vein and also narrowly along the fourth vein, leaving a nearly square hyaline spot between third and fourth veins; the bands narrowly reach the hind margin of the wing at tip of fifth vein and also at tip of fourth vein, along the costa the brown reaches from the tip of first vein to tip of the fork of fourth vein and follows this fork to wing margin; from tip of first vein to base of wing and from the costa to third vein the wing is tinged with yellow; upper bend of fork of fourth vein with a stump vein, this fork bent backward so as to form a 50° angle with fourth vein; cross vein only slightly oblique, almost at right angles to fourth vein; last section of fifth vein 14, cross vein 44, fourth vein from cross vein to fork 75, from fork to wing margin twenty-six fiftieths of a millimeter long; first vein reaching about two-fifths of the length of the wing.

Female.—Length 4 mm. Agrees with the male in the color of the face, front, proboscis and palpi; in the form of antennae, its bristles and arista; and in the venation of wings and color of legs and feet, except that the tibiae are all yellow. The joints of fore tarsi are as 90-18-12-8-5; those of middle ones as 82-20-18-7-5; those of posterior pair as 62-25-15-9-6; middle basitarsi without clavate bristles, fore basitarsi with a few little bristles below.

Described from one pair, taken by J. M. Aldrich, May 7 and 8, 1926, at Quirigua, Guatemala.

Type.—Cat. No. 41029, U.S.N.M.

PSILOPUS SEMICILIATUS, new species

Male.—Length 5 mm.; of wing 5.5 mm. Face green above, lower part blue, the suture a little below the middle, pollen along the orbits quite thick. Palpi and proboscis black with black hair. Front shining blue. Antennae black, rather short, bristles of second joint numerous and more than twice as long as the antennae; third joint small; arista dorsal, as long as width of head; orbital cilia and hair on lower part of head long, white.

Thorax green, sides and posterior half of dorsum blue; scutellum with two pair of long slender bristles; bristles of thorax and abdomen long; three basal segments of abdomen blue, the apical segments green with bronze reflections. Hypopygium (fig. 18) black, its lamellae black with about six stout spines in a group on one edge.

Coxae and femora green; tibiae and tarsi black; fore coxae with white hair, which is longer than their diameter, and two slender black bristles; all femora with long white hair below; fore tibiae with a row of six black bristles on lower posterior edge, which are longer than the fourth joint of fore tarsi and become a little shorter apically; middle tibiae with five short, slender bristles on upper anterior and four on upper posterior edge of basal half, also one a little longer, stouter and nearly erect, near the tip on lower anterior edge; posterior tibiae with about nine slender bristles on anterior surface of basal two-thirds these are fully as long as those on fore tibiae; first joint of fore tarsi (fig. 19) with one erect bristle near the base below and about ten on apical half, which are not in a row; joints of fore tarsi as 106-13-15-16-8; those of middle ones as 155-30-25-15-11; joints of posterior pair as 105-23-20-15-9; the last four joints of hind tarsi a little swollen. Calypters, their cilia and the halteres black.

Wings grayish with the usual crossbands, the hyaline space between them reaching third vein, they do not reach the hind margin of the wing; the brown extends along the costa from just before the tip of first vein to tip of second vein; hairs on the costa quite long, but recumbent; first vein does not reach the middle of the wing; cross vein 53, last section of fifth vein 28, fourth vein from the cross vein to the fork 62 and from the fork to the wing margin thirty-two fiftieths of a millimeter.

Described from one male, taken by J. M. Aldrich, May 2, 1926, at Antigua, Guatemala.

Type.—Male, Cat. No. 41030, U.S.N.M.

PSILOPUS PANAMENSIS, new species

Male.—Length about 3.5 mm.; of wing 3.5–4 mm. Face green, usually blue on lower portion, where there is a little gray pollen, the suture near apical third, making the lower portion about as wide as long. Palpi and proboscis black. Front violet. Antennae black; bristles of second joint one and a half times as long as the antenna, third joint small, somewhat conical; arista dorsal, a little longer than width of head.

Thorax and abdomen dark green, the former with violet reflections and a little brown pollen; bristles of the thorax and abdomen numerous and rather long; sides of abdomen with long white hair, especially on basal part; scutellum with two pair of large bristles. Hypopygium (fig. 20) black, outer appendages brownish yellow, the small clavate appendages to the larger lamellae are yellow and fringed with long hairs.

Coxae, femora and hind tarsi black; tibiae and fore and middle tarsi brown; fore coxae with long white hair; all femora with some long white hairs below, those on anterior pair bristle-like, fore femora also have black hair on both sides, which is longer than the width of femora; fore tibiae with a row of six bristles of increasing length on upper surface, the longest ones being almost as long as second joint of fore tarsi; middle tibiae with three bristles above, two of which are as long as the longest on fore tibiae; hind tibiae with a row of slender bristles on basal two-thirds of lower anterior surface and a row of somewhat shorter hairs on the whole of lower posterior surface; fore tarsi with the fifth joint slightly widened; middle basitarsus with a few irregular and very small spines; joints of fore tarsi as 66–18–13–7–7; of middle ones as 82–26–19–9–5; joints of posterior pair as 67–27–18–9–8. Calypters, their cilia and the halteres black.

Wings grayish; costa without cilia; first vein reaching nearly to the middle of the wing; last section of fifth vein 20, cross vein 41, fourth vein from the cross vein to the fork 40, from the fork to wing margin twenty-five fiftieths of a millimeter long; cross vein oblique; fork of fourth vein bending backward a little so as to make the angle with fourth vein less than a right angle.

Described from six males, taken by Nathan Banks, July 4, and August 7 and 8, 1924, at Bella Vista, Panama.

Type.—In the Museum of Comparative Zoölogy.

Paratype.—Male, Cat. No. 41031, U.S.N.M.

PSILOPUS NITIDICAUDA, new species

Male.—Length 3.7 mm. Face green, seen from in front shining, viewed from above covered with silvery white pollen, which extends

a little above the antennae, its suture at the middle. Front green or blue-green, shining, except just above the antennae and at the vertex. I can see but one or two very small yellow hairs on each side. Antennae black; third joint small, second joint with one bristle below that is longer and one that is shorter than the antenna, those on upper edge of joint shorter; arista dorsal, about as long as the width of head. Palpi black with black hair; proboscis yellowish brown.

Thorax and abdomen shining green; dorsum of thorax with a little white pollen, which is visible when viewed obliquely; bristles of thorax black, of moderate length; scutellum with two pair of large bristles; abdomen with the base of second to fifth segments black; sixth segment mostly blue; hairs and bristles of the abdomen short, black, those on the basal half of the venter short and whitish. Hypopygium (fig. 21) and its lamellae shining black, the latter thin, nearly as large as the former, sometimes curled up so as to appear slender.

All coxae and femora and the hind tibiae black; fore coxae with rather short white hairs; all femora with long white hair below; tips of fore and middle femora, their tibiae and basitarsi yellow; fore and middle tarsi from the extreme tip of first joint and the whole of posterior tarsi black; fore tibiae with two small bristles on basal third of upper surface and two a little larger on lower posterior edge; middle tibiae with two rather small bristles on basal third and one at apical third of upper surface and four or five very small ones below; hind tibiae with several very small bristles; first joint of fore tarsi (fig. 22) with three long bristles below, one at base and two erect ones on apical half. second joint with six minute bristles below. Joints of fore tarsi as 59-17-17-11-8; those of middle ones as 56-23-18-11-7; joints of posterior pair as 62-23-17-10-7. Calypters and their cilia black, knobs of halteres yellow.

Wings (fig. 29) grayish with the usual brown crossbands connected on the costal margin; the hyaline space between them extends to third vein and is continued in front of it in a space where the brown is paler than that around it, which does not reach the second vein; hairs on the costa very short and recumbent.

Female.—Like the male in color, except that the abdomen is more bronzed; the posterior tibiae are sometimes brownish yellow and all tarsi are a little paler, the fore basitarsi have the same bristles below, but they are much shorter, not being longer than the diameter of the joint.

Described from 23 males and females, all taken by Nathan Banks. June 20 to August 7, 1924, at Barro Colorado Island, Panama Canal Zone.

Type.—In the Museum of Comparative Zoölogy.

Paratypes.—Male, female, Cat. No. 41032, U.S.N.M.

PSILOPUS FLAVIANNULATUS, new species

Male.—Length 5 mm.; of wing the same. Face blue with green reflections, more violet just below the antennae, covered with silvery white pollen when viewed obliquely, its suture near the middle. Front blue or violet. Palpi and proboscis yellow. Antennae yellow, third joint mostly brown, small, a little pointed at tip, second joint with a crown of short bristles; arista dorsal, scarcely as long as the width of the head.

Dorsum of thorax shining green with blue or violet reflections; bristles of thorax and abdomen short, those on posterior part of thorax a little longer; scutellum with one large and one small pair of bristles. Abdomen green, first segment mostly yellow, second yellow at base, the others with black incisures and coppery reflections. Hypopygium (fig. 23) dark brown with long outer appendages, which are yellow with a black tip, the inner appendages blackish.

All coxae, their bristles and hairs and all femora and tibiae yellow; all femora nearly bare below; middle femora with a row of short but stout black hairs on apical half of posterior surface; tibiae without bristles, except very short ones near the base of fore and middle pairs; fore and middle tarsi blackened from the tip of the first joint, posterior pair wholly blackish; fore tarsi with a row of short, flattened hairs, which do not reach the base or tip, fifth joint very slightly widened; other tarsi plain, except that the middle ones have short, delicate, but rather dense hair below on third and fourth joints. Joints of fore tarsi as 135-29-24-16-7; of middle ones as 132-48-40-21-10; joints of posterior pair as 98-41-26-15-8. Calypters and halteres yellow, the former with a black tip and long pale cilia.

Wings grayish hyaline; costa ciliated with erect hairs, which are bent at tip and begin near the middle of first vein, they become short recumbent hairs before the tip of second vein; first vein not one-third the length of the wing; cross vein oblique; last section of fifth vein 17, cross vein 53; fourth vein from the cross vein to the fork 53, from fork to wing margin nineteen-fiftieths of a millimeter long; fork of fourth vein bent backward so as to make less than a right angle with basal part of fourth vein, upper bend of fork with a stump vein.

Female.—Thorax less blue; bristles of fore coxae brown; costa without cilia, the hairs being all recumbent; tarsi plain.

Described from 2 males and 10 females, taken by Nathan Banks, July 6 and August 8, 1924, at Bella Vista, Panama Canal Zone; and

3 females, taken by C. M. Rouillard, at Obispo, La Providencia, Guatemala.

Type and *allotype* in the Museum of Comparative Zoölogy.

Paratypes.—Female, Cat. No. 41033, U.S.N.M., from Guatemala.

PSILOPUS CLAVATUS, new species

Male.—Length 4 mm.; of wing the same. Face green, when seen obliquely nearly covered with silvery white pollen, its suture a little above the middle. Palpi small, black; proboscis yellow. Front shining green. Antennae black, longest bristles on second joint about as long as the antenna, third joint small, rounded; arista dorsal, about as long as the width of the head.

Thorax and first five abdominal segments shining green, sixth and seventh violet; bristles of the thorax and abdomen moderately long; scutellum with two pair of large bristles. Hypopygium (fig. 24) brown with short brown appendages; venter brown.

Fore coxae, all femora and tibiae yellow, middle and hind coxae black; all femora with white hair below, which is as long as width of femora; fore tibiae with a row of four or more bristles on posterior surface, which are twice as long as the diameter of tibia; middle tibiae with a row of 15 bristles on anterior surface, which are twice as long as diameter of tibia; hind tibiae with a small bristle near the base, one at apical fourth and one near the tip; extreme tip of hind tibiae black; fore and middle tarsi infuscated from the tip of first joint; hind tarsi wholly black; fore tarsi (fig. 25) with a long bristle near the base and a still longer one at about apical fourth, last joint slightly widened; middle basitarsi with four or five short bristles below; hind tarsi (fig. 26) with the last three joints considerably flattened and widened; joints of fore tarsi as 92-32-22-11-7; those of middle ones as 102-27-21-12-6; joints of posterior tarsi as 81-28-11-12-9. Calypters yellow with tip and cilia black; halteres wholly yellow.

Wings grayish with the usual crossbands faintly marked; the hyaline space between them reaches third vein; they fill out the space in front of the fork of fourth vein, extending back as an infuscation of the first part of this fork, of the cross vein and last section of fifth vein to wing margin; cross vein 30, last section of fifth vein 18, fourth vein from the cross vein to the fork 62 and from fork to wing margin twenty-three fiftieths of a millimeter long; the last section of fifth vein ends abruptly at one-third the distance to the wing margin; fork of fourth vein bends backward so as to make less than a right angle with basal part of fourth vein; upper bend of fork with a

stump vein; first vein reaching two-fifths the length of the wing; costa with minute hairs.

Described from one male, taken by Nathan Banks, August 6, 1924, at Ancon, Panama Canal Zone.

Type.—In the Museum of Comparative Zoölogy.

PSILOPUS SIMULANS, new species

Male.—Length 4 mm; of wing the same. Face green, sometimes blue below, covered with silvery white pollen when viewed obliquely, the suture near the middle. Palpi black, proboscis brownish yellow. Antennae black, second joint with bristles as long as the antenna, third joint small, rounded; arista dorsal, a little longer than width of head. Front shining green.

Thorax and abdomen shining green with coppery reflections and short bristles; abdominal segments with broad basal black bands; last segment more blue. Hypopygium (fig. 27) and its large, rounded lamellae mostly shining black, the lamellae with long bristles at tip.

Coxae and femora black; tips of fore and middle femora and all tibiae yellow; fore and middle tarsi black from the tip of first joint; extreme tips of posterior tibiae and their tarsi black; fore coxae with long white hair; all femora with white hair below, which is scarcely as long as width of femora; fore tibiae with two slender bristles on lower posterior edge, which are longer than their diameter, and two shorter ones near the base on upper anterior edge; middle tibiae with three bristles on upper anterior edge which are nearly twice as long as the diameter of the tibia and several very short ones below; posterior tibiae with two very short bristles, one at basal fourth and one near the middle; fore tarsi (fig. 28) with three long bristles below on first joint, and very small spines on the two following joints; middle basitarsi with minute, irregular bristles; joints of fore tarsi as 61-18-20-14-8; those of middle ones as 78-25-17-15-7; joints of posterior pair as 60-23-17-9-8. Calypters and their cilia black; halteres yellow.

Wings grayish with the usual crossbands, the hyaline space between them reaches the third vein and is rather narrow between third and fourth veins, the first band reaches the tip of first vein; venation very much like that of *clavatus*, new species; cross vein 35, last section of fifth vein 16, fourth vein from the cross vein to fork 48, from fork to wing margin twenty-three fiftieths of a millimeter long; the portion of fourth vein beyond the fork nearly reaches the wing margin; upper bend of fork rounded; first vein about two-fifths the length of the wing.

Described from two males, taken by Nathan Banks, June 20 and 21, 1924, at Barro Colorado Island, Panama Canal Zone.

Type.—In the Museum of Comparative Zoölogy.

This is very much like *digitatus* Van Duzee; it differs from that form in having the hypopygial lamellae broad and rounded, while in *digitatus* they are short and linear.

Genus DIAPHORUS Meigen

Diaphorus MEIGEN, Syst. Besch., vol. 4, 1824, p. 32.—LOEW, Mon. North Amer. Diptera, p. 2, 1864, pp. 159, 169 (*Diaphorus* and *Lyroneurus*).—ALDRICH, Kansas Univ. Sci. Bull., vol. 1, 1902, p. 85, table of North American species.—VAN DUZEE, Bull. Buffalo Soc. Nat. Sci., vol. 11, 1915, pp. 161–194, table of species.

DIAPHORUS OPACUS Loew

Diaphorus opacus LOEW, Mon. North Amer. Diptera, pt. 2, p. 160, 1864.

J. M. Aldrich took this May 16, 1926, at La Providencia, Obispo, Guatemala.

DIAPHORUS COERULESCENS Loew

Diaphorus coerulescens LOEW, Mon. North Amer. Diptera, pt. 2, p. 170, 1864.

J. M. Aldrich took two May 1, 1926, at El Salto, Antigua, Guatemala.

DIAPHORUS SPECTABILIS Loew

Diaphorus spectabilis LOEW, Mon. North Amer. Diptera, pt. 2, p. 162, 1864.

J. M. Aldrich took a number of these April 14 and 16, 1926, at La Providencia, Obispo, Guatemala.

DIAPHORUS SIMPLEX Aldrich

Diaphorus simplex ALDRICH, Trans. Entom. Soc. London, 1896, p. 333.

J. M. Aldrich took two May 7, 1926, at Quirigua, Guatemala; Nathan Banks took one pair July 3 and 29, 1924, at Barro Colorado Island, Panama Canal Zone.

DIAPHORUS CURVISPINA, new species

Male.—Length 3.5 mm. Face wide, green with silvery white pollen. Front shining green, about as wide as the face. Palpi black with white pollen. Antennae black, third joint flattened at tip, about three times as wide as long; arista apical.

Thorax and abdomen green, a little dulled with grayish white pollen; hairs of the abdomen black. Hypopygium and its appendages small, bristles at tip of abdomen stout but not very long.

All coxae and femora metallic green; fore coxae with a few small pale hairs; tips of femora and all tibiae yellow, posterior tibiae a little brownish at tip on outer side, their tarsi yellow at base; pulvilli of fore tarsi a little enlarged; posterior basitarsi with a long curved bristle below near the base, fully three-fourths as long as the joint; joints of fore tarsi as 58-22-15-9-7; of middle ones as 51-23-16-7-6; those of posterior pair as 37-24-15-8-7; the long bristles of hind basitarsus as 28. Calypters and halteres yellow, the former with black cilia. Wings grayish; third and fourth veins each bent away from the other beyond the cross vein, becoming more parallel toward their tips; last section of fifth vein 33, cross vein twenty-fiftieths of a millimeter long; first vein not reaching beyond one-third of the distance to tip of second vein.

Female.—Very much like the male, except that the third and fourth veins are almost exactly parallel beyond the cross vein; the face is distinctly divided near the middle, and there is no spine on lower surface of hind basitarsi.

Type and *allotype*, taken by J. M. Aldrich, April 14 and 15, 1926, at La Providencia, Obispo, Guatemala. Three *paratypes* were taken by Nathan Banks in the Panama Canal Zone; one male on Taboga Island, June 29, 1924; one female at Barro Colorado Island, and one female at Fort Sherman, July 3, 1924.

Type.—Male, Cat. No. 41034, U. S. N. M. This would run to *simplex* Aldrich, which is very much like it, but this differs in having the spine of lower surface of posterior basitarsi much longer and curved, not erect as in *simplex*, and the third and fourth veins are not so much bent as in that species.

DIAPHORUS PERPLEXUS, new species

Male.—Length 3.5 mm. Face and front green, of nearly equal width, the former slightly narrowed below and covered with white pollen; front shining with only a little yellowish pollen. Antennae wholly black, third joint evenly rounded at tip, twice as wide as long; arista apical. Palpi black with white pollen. Lower orbital cilia white.

Thorax green, a little dulled with yellowish pollen. Abdomen shining green with bronze reflections, last two segments more blue, its hair black. Hypopygium conspicuous but small, its appendages small.

All coxae and femora black with green reflections, their tips and the trochanters yellow; a few minute pale hairs on fore coxae and one black bristle at tip; fore femora with a row of black hairs below, which are short, except at base; tibiae yellow, posterior pair brown at tip; fore and middle tarsi from the tip of first joint and most of

hind tarsi black; first joint of hind tarsi with an erect bristle below near the base, which is half as long as the joint and slightly curved; joints of fore tarsi as 41-23-18-10-8; those of middle ones as 42-23-15-8-7; joints of posterior pair as 33-25-13-7-5, their spine as 17. Calypters and halteres yellow, cilia of the former black. Pulvilli of fore tarsi scarcely enlarged.

Wings grayish, slightly brownish in front of third vein; first vein reaching one third of the distance to tip of second vein; third vein running quite close to second vein to near the tip of that vein then quite abruptly bending backward; last section of fourth vein nearly straight, only a little arched forward in the middle, therefore not parallel with third vein; cross vein 22, last section of fifth vein twenty-nine fiftieths of a millimeter long.

Described from one male, taken by Nathan Banks, July 3, 1924, at Fort Sherman, Panama Canal Zone.

Type.—In the Museum of Comparative Zoölogy.

This is nearly like *simplex* Aldrich, but the third and fourth veins are much nearer parallel, the third vein not being greatly bent as in that species and the bristles at tip of abdomen are also very small.

DIAPHORUS VARIPES, new species

Male.—Length 3.5 mm. Face wide, silvery white, a little longer than wide; eyes contiguous above the antennae. Proboscis and palpi black. Antennae wholly black, third joint flattened or a little concave at tip, arista apical; lower orbital cilia white.

Thorax and scutellum bright green with white pollen; bristles of thorax strong and black. Abdomen more bronze color or coppery, its hairs black, those on the venter long and white; hypopygium and its appendages small; bristles at tip of abdomen strong.

Fore coxae yellow, blackened on outer surface almost to tip, its hairs few and pale, bristles at tip black; middle and hind coxae black; fore femora wholly yellow with long pale hairs below; middle femora yellow at base and on most of apical half, black in the middle; hind femora yellow with upper surface of apical half black, except at extreme tip; all tibiae and more or less of first tarsal joint yellow, tarsi blackish beyond the tip of first joint; middle tibiae with one large bristle near the base on upper anterior edge; pulvilli of fore and middle tarsi longer than their fifth joint, those of posterior tarsi a little shorter; joints of fore tarsi as 45-16-14-10-5; those of middle pair as 52-24-17-8-6; joints of posterior pair as 34-30-29-10-8. Calypters, their cilia and the halteres yellow.

Wings grayish; third and fourth veins parallel, fourth ending in the apex of the wing; first vein reaching one-third the distance to tip

of second; last section of fifth vein 37, cross vein twenty-five fiftieths of a millimeter long.

Described from one male taken by Nathan Banks, July 13, 1924, at Barro Colorado Island, Panama Canal Zone.

Type.—In the Museum of Comparative Zoölogy.

This form is remarkable for the color of its legs.

Genus ASYNDETUS Loew

Asyndetus LOEW, Centuries, 8, 1869, No. 58; Besch. Europ. Dipt., vol. 2, 1871, p. 296.—WHEELER, Proc. California Acad. Sci., vol. 2, 1897, p. 32.—ALDRICH, Kansas Univ. Sci. Bull., vol. 1, 1902, p. 87.—VAN DUZEE, Psyche, vol. 23, 1916, p. 88; Ent. News, vol. 30, 1919, 248.

ASYNDETUS FLAVITIBIALIS, new species

Female.—Length 4.5 mm. Face about as wide as the front, narrowed a little below and quite pointed, covered with whitish pollen, its suture below the middle. Palpi large, yellow with pale hairs; proboscis black; front blackish, covered with whitish pollen. Antennae wholly black, third joint nearly round, a little flattened at tip; arista dorsal, as long as the face. Orbital cilia and beard white.

Thorax and abdomen green with coppery reflections, the former with two coppery lines on the dorsum; hind margins of abdominal segments broadly and densely white pollinose; bristles of thorax and tibiae black; all hairs of abdomen, coxae, femora, tibiae and tarsi yellow.

Coxae and femora greenish black, extreme tips of coxae, the trochanters, base and tips of femora, all tibiae and tarsi yellow, tips of fore and middle tarsi and most of last four joints of posterior tarsi infuscated; joints of fore tarsi as 22-7-6-5-5; of middle tarsi as 44-18-14-8-9; joints of posterior tarsi as 35-39-22-12-11. Calypfers and halteres yellow, the former with white cilia.

Wings grayish, veins yellow, costa brownish yellow; third vein straight and parallel with second vein to tip of that vein, then bending sharply backward, so as to run nearly parallel with costa and uniting with it at about three-fourths the distance from tip of second vein to the apex of wing; fourth being quite strong for the genus, broken opposite tip of second vein, the last part overlapping the basal part and parallel with it, but not quite reaching the wing margin, which it would touch far back of the apex of the wing; cross vein placed opposite apical fifth of first vein.

Described from two females, taken by A. Busck, February 15, 1912, on Tabogilla Island, Panama.

Type.—Female, Cat. No. 41035, U.S.N.M.

This would run to *latus* Van Duzee, but differs in being larger, in having the fourth vein stronger and completely broken, third

vein running closer to second vein and extending nearer to the apex of the wing, and the cross vein farther from the base of the wing.

Genus CHRYSOTUS Meigen

Chrysotus MEIGEN, Syst. Besch., vol. 4, 1824, p. 40.—LOEW, Monographs, vol. 2, 1864, p. 171.—ALDRICH, Kansas Univ. Sci. Bull., vol. 1, 1902, pp. 85, 88.—VAN DUZEE, Bull. Buffalo Soc. Nat. Sci., vol. 13, 1924, p. 1, revision with key.

CHRYSOTUS CONTRACTUS, new species

Male.—Length 2.5 mm. Face green, quite wide above, narrow below; palpi yellow, proboscis black; front green; antennae wholly black, formed as in *barbatus* Loew, third joint with a somewhat globular base, then suddenly contracting into a long slender point, at tip of which is the arista, which is scarcely as long as the narrow part of third joint; lower orbital cilia and beard long, white.

Thorax and abdomen bright green, dorsum of thorax with thin brown pollen; hairs of the abdomen black, but appearing reddish-yellow in certain lights; hypopygium small, its hairs yellow, it has small, yellowish lamellae projecting downward.

Coxae black, anterior pair more green with yellow tips and white hair; trochanters yellow; femora green, apical third of anterior and apical half of middle pair yellow; posterior femora with a cluster of long black hairs or bristles near the middle of anterior surface of lower edge and two bristles near the tip; tibiae yellow, broad base and narrow tip of posterior pair blackened, anterior pair with apical half more or less infuscated; middle tibiae (fig. 54) swollen below at the middle, then narrowed and again a little wider, this part appearing about normal, they have a large bristle above near basal third and two rows of very small spines below; all tarsi blackish from the tip of the first joint; middle basitarsus (fig. 54) arched and enlarged at base and tip, it also has a continuation of the two rows of little spines on lower surface, but they are very small, except at base and tip; fore tibiae and basitarsus also have two rows of minute inconspicuous spines below; joints of fore tarsi as 18-7-5-4-4; those of middle ones as 25-12-9-5-5; those of posterior tarsi as 22-14-7-5-5. Calypters, their cilia and the halteres yellow.

Wings slightly grayish; third and fourth veins parallel, fourth ending in the apex of the wing; cross vein nearly at the middle of the wing; first vein reaching scarcely beyond basal fourth of wing; last section of fifth vein 18, cross vein twelve-fiftieths of a millimeter long.

Female.—Face and palpi about as in the male; third antennal joint small, about as long as wide, rounded at tip; arista apical, normal; thorax and its pollen as in the male; cilia of the calypters black;

fore and middle femora black with narrow yellow tips; posterior femora without the cluster of bristles at their middle and with only one bristle at tip; tibiae and tarsi pale yellow, plain, tarsi a little darkened toward their tips; last section of fifth vein 31, cross vein twelve-fiftieths of a millimeter long.

Described from two males and one female, taken by J. M. Aldrich, April 16, 1926, at La Providencia, Obispo, Guatemala.

Type.—Male, Cat. No. 40136, U. S. N. M.

This is very much like *Achradocera meridionalis* Becker¹ which has the middle tibiae and basitarsi formed about the same; but according to Doctor Becker that species has the face dull brown; the cilia of the calypters black; tibiae and tarsi yellow, at least the description does not mention the infuscation of the tips of fore and middle tibiae and of all tarsi, except their base, which is very conspicuous in this form; his figure shows less constriction of the tibiae and no large bristle above; in *meridionalis* the hypopygial lamellae are black, in this they are yellow.

CHRYSOTUS FLAVIMACULATA, new species

Male.—Length 3–4 mm. Face narrow, a little wider above, white; palpi as long as width of third antennal joint, silvery white; front shining, green or bronze color; antennae wholly black, third joint rounded at tip, not as long as wide; arista apical; lower orbital cilia white.

Thorax shining green, the anterior half more or less reddish coppery; pleurae dulled with white pollen. Abdomen shining green with coppery reflections on basal half; second segment with a large yellow triangle on each side, which are widely separated on the dorsum or sometimes they may meet above; hypopygium small, black, appendages small.

Fore coxae, and all femora, tibiae, and tarsi yellow, tarsi darkened at tip; posterior edge of pleurae and most of hind coxae yellow; fore coxae nearly bare with black bristles at tip; fore femora with longer hair below than above; fore tibiae without bristles, those of middle and hind ones large; pulvilli of fore tarsi yellow, distinctly enlarged; joints of fore tarsi as 39–21–15–11–7; those of posterior pair as 27–23–15–8–6.

Wings grayish; third and fourth veins parallel, fourth ending in the apex of the wing; cross vein in the middle of the wing; first vein reaching a little more than half way to tip of second; last section of fifth vein 27, cross vein eighteen-fiftieths of a millimeter long.

Described from five males, taken by Nathan Banks, July 8–27, 1924, at Barro Colorado Island, Panama Canal Zone.

Type.—In the Museum of Comparative Zoölogy.

¹ Becker's *Dolichopodidae* of America, 1921, p. 208.

This has the third and fourth veins quite far apart as in *Diaphorus* and has the fore pulvilli slightly enlarged, otherwise it is a typical *Chrysotus*.

Genus ARGYRA Macquart

Argyra MACQUART, Hist. Nat. Dipt., vol. 1, 1834, p. 456.—LOEW, Mon. N. Am. Diptera, pt. 2, 1864, p. 123, table of species.—VAN DUZEE, Proc. U. S. Nat. Mus., vol. 66, 1925, pp. 1-23, table of N. A. species.

ARGYRA VIOLACEA, new species

Female.—Length 5 mm. Face silvery white, rather narrow, wider below, the portion below the suture about two-thirds as long as upper part; palpi large, black, covered with white pollen and black hair; proboscis yellow; front violet with thin white pollen; first two antennal joints black, first with many hairs above (third joint missing in type); lower orbital cilia long and white.

Dorsum of thorax and scutellum wholly shining violet; pleurae more blue-green, dulled with white pollen, pleural sutures and posterior edge of pleurae yellow; scutellum bare with two large marginal bristles; propleurae largely yellow; humeri surrounded with yellow. Abdomen yellow, second to fifth segments black above on anterior edge, the black extending to posterior margin in the middle, narrowly so on second segment, more widely on each succeeding segment.

Coxae yellow, middle ones with a blackish streak on outer surface; anterior surface of fore coxae with short white hair, hairs of middle ones and bristles of all coxae black; all femora yellow with short hair; fore and middle tibiae yellowish-brown, posterior ones brown; all tarsi black or dark brown; joints of fore tarsi as 99-33-29-16-12; of middle ones as 123-43-32-12-8; joints of posterior pair as 28-79-48-21-12. Calypters small, black with long black cilia; halteres pale yellow.

Wings dark gray; third vein bent backward at tip; last section of fourth vein bent near its middle, the part beyond this bend nearly straight and approaching third vein toward its tip, ending just back of the apex of the wing; last section of fifth vein 30, cross vein thirty-nine fiftieths of a millimeter long; wing narrow at base, so that the sixth vein runs parallel with the wing margin, its tip continued as a thin fold, which curves abruptly to the wing margin about opposite the middle of first vein.

Described from one female, taken by C. M. Rouillard, at La Providencia, Obispo, Guatemala.

Type.—Female, Cat. No. 41037, U.S.N.M.

This species is remarkable for the short posterior basitarsi.

KEIROSOMA, new genus

This would come near *Nematoproctus*, from which it differs in having the abdomen compressed and cut off abruptly at tip, in the male at least. The first antennal joint is bare above; arista dorsal; third antennal joint formed as in *Nematoproctus*, the thorax also of the same bright green color, with silvery-white pollen along the front. Bristles on the posterior margins of the abdominal segments very strong; hypopygium concealed, or mostly so, its appendages rather short, not filiform as in *Nematoproctus*; wings rather wide; cross vein slightly beyond the middle of the wing and not as long as last section of fifth vein; sixth vein strong but not reaching the wing margin; third and fourth veins nearly parallel, but slightly divergent at their tips; first joint of hind tarsi shorter than second.

This would run to *Chrysotus* in tables of species; it differs in being large, very bristly, with the abdomen compressed, cut off squarely at tip, not at all tapering in the male; the cross vein is beyond the middle of the wing, not before the middle, as in *Chrysotus*; the tip of fourth vein is a little beyond the apex of the wing.

The name has reference to the truncated abdomen of the male.

Genotype.—*Keirosoma albicinctum*, new species.

KEIROSOMA ALBICINCTUM, new species

Male.—Length 6 mm.; of wing 5 mm. Eyes touching for a short distance below the middle of the face, the slender triangle above and short line below silvery white; palpi small, yellowish brown; front shining green; antennae (fig. 75) short, yellow, brown at tip, placed at upper fifth of eye height; orbital cilia short, wholly black; one pair of short post-vertical bristles; one pair of long ocellar bristles curving backward; and one pair of orbital bristles curving inward and forward, crossing each other before their tips.

Dorsum of thorax shining green with blue and bronze reflections and silvery white pollen along the front; pleurae more black with gray pollen; acrostichal bristles in two rows, rather large; five dorsocentral bristles on each side, the anterior one stout but not long, they become long posteriorly; scutellum large, somewhat truncate at tip, green with violet in the middle, one pair of very large marginal bristles. Abdomen compressed, cut off abruptly at tip (fig. 76), five visible segments, which are blackish purple with a rather narrow green base and some green reflections on the purple portion; the green base is opaque with white pollen when viewed from above, this white pollen narrowly interrupted on the middle of the dorsum; posterior margin of all segments with a row of very long bristles; all hairs and bristles of thorax, abdomen, legs, and feet black.

Fore coxae wholly yellow, middle ones largely black, posterior pair yellow, blackened on outer surface; all femora and tibiae yellow; posterior tibiae black at tip; hind femora with long hair above and below; fore tibiae with a row of four bristles of increasing length on upper anterior edge and three smaller ones on upper posterior edge; middle tibiae with two irregular rows of bristles above and a row of four below, which increase in length apically; posterior tibiae with two rows of about six long bristles above, between these is a glabrous stripe, they have long bristly hair below, which is longer apically; fore tarsi wholly yellow, middle ones more brown, even at base, posterior pair wholly black; joints of fore tarsi as 50-16-14-9-10; of middle ones as 62-35-27-13-13; joints of posterior pair as 45-54-41-23-13. Halteres wholly yellow; calypters black with long, dense, black cilia, which are bent backward at tips.

Wings grayish, slightly tinged with brown in front; third vein straight; last section of fourth vein with a very slight bend beyond its middle, it reaches the wing margin beyond the apex of the wing, and as it runs straight from base to tip (except for the slight bend near its apex) it is nearly uniformly divergent from third vein for its entire length; first vein reaches two-thirds the distance to the cross vein, which is a little beyond the middle of the wing and at right angles to fifth vein; fifth vein only gently arched, its last section not bent backward any more than the basal portion; cross vein as 33, last section of fifth vein as 48; sixth vein distinct and quite strong, but tapering and ends before the wing margin; in front of the sixth vein is a fold in the wing which reaches the wing margin and when viewed from the right direction it appears like a rather strong vein.

Described from two males; one, the type, was taken by C. T. Greene on Barro Colorado Island, Canal Zone, April 16, 1926; the other was collected by Mrs. Annie Trumbull Slosson at Biscayne Bay, Fla. She sent this specimen many years ago to J. M. Aldrich, in whose collection it remained, marked "New Genus."

Type.—Male, Cat. No. 41038, U.S.N.M.

Genus SYMPYCNUM Loew

Sympycnum LOEW, Neue Beitr., vol. 5, 1857, p. 42; Mon. North Amer. Diptera, pt. 2, 1864, p. 185, table of species.—WHEELER, Proc. California Acad. Sci., vol. 2, 1899, p. 47, table of species.

SYMPYCNUM IMPERFECTUS, new species

Male.—Length 3.7 mm. Face very narrow, of nearly equal width, silvery white. Palpi and proboscis black, the former with white pollen. Antennae black, third joint small, about as long as wide, somewhat triangular, obtusely pointed at tip. Lateral and inferior orbital cilia long, white.

Thorax green, dorsum covered with brown pollen, pleurae with white pollen. Abdomen green, dorsum with coppery reflections, except the last segment; hairs of the abdomen and hypopygium black, a few on the venter pale. Hypopygium small with small, black lamellae, which project downward and curve backward at tip.

Coxae, basal half or more of fore femora and upper surface of posterior femora black; apical part of fore femora, their tibiae, base of fore tarsi and middle femora and tibiae yellow; extreme tips of middle tibiae, fore and middle tarsi and posterior tibiae yellowish brown; last joint of fore and middle tarsi, tips of posterior tibiae and the whole of posterior tarsi black; last joint of middle tarsi (fig. 30) flattened and widened; hairs and bristles on fore and middle coxae white, hairs of fore coxae rather long; femora nearly bare below; bristles of posterior tibiae fully as long as the diameter of the tibia; length of fore tibiae as 52, joints of fore tarsi as 31-12-9-8-8; those of middle ones as 47-22-17-11-11; joints of posterior pair as 34-28-18-12-11. Calypters yellow with brown tips and yellow cilia; halteres yellow.

Wings (fig. 31) more brown in front, otherwise grayish; third vein bent back, then recurved forward at tip; fourth vein slightly arched, ending in the apex of the wing; last section of fifth vein extending only about one-third of the distance from the cross vein to wing margin, the length of this portion 7, to wing margin 23, cross vein twenty-seven fiftieths of a millimeter, cross vein somewhat arched.

Female.—Face wide, dark gray; cilia of the calypters black; last section of fifth vein complete to wing margin, a little shorter than the cross vein; cross vein more distinctly clouded than in the male, also a faint, clouded spot on the middle of last section of fourth vein; posterior tibiae yellow with a black tip; fore and middle tarsi black from the tip of the first joint; second joint of posterior tarsi a very little shorter than first; fifth joint of middle tarsi plain, a little shorter than fourth.

Described from one pair, taken October 24, 1926, at Angol, Chile, by D. S. Bullock.

Type.—Male, Cat. No. 41039, U.S.N.M.

SYMPYCNUM LONGIPES, new species

Male.—Length 4.5-4.8 mm. Face very narrow, eyes almost touching on lower part of the face, face and palpi silvery white; proboscis blackish, front obscured with grayish pollen. Antennae (fig. 32) wholly black, third joint about as long as wide, somewhat triangular; arista inserted at base of third joint; lower orbital cilia white.

Thorax dull green, its pollen brown, leaving two indistinct vittae, one each side of a narrow, median line of brown pollen, its bristles long, black; pollen on the pleurae white. Abdomen green, sometimes the first and second segments appear blackish in certain lights; base of the other segments broadly blackish purple on the middle of the dorsum, but this color scarcely reaches the lower edge on the sides; abdomen with numerous pale hairs. Hypopygium small, its appendages small, partly black and partly yellowish, sometimes concealed.

Fore coxae, all femora, fore and middle tibiae and most of anterior tarsi pale yellow; fore coxae with conspicuous white hair; fore and middle coxae with yellow bristles at tip, posterior ones with one erect, black bristles on outer surface; middle and hind coxae greenish with yellow tips; upper edge of hind femora at tip and their tibiae brown, the tibiae more yellowish on basal part; first three joints of middle tarsi brown, fourth (fig. 33) whitish, widened, fifth black, still broader, oval; hind tarsi wholly black; joints of fore tarsi as 40-16-11-5-6; those of middle ones as 69-32-28-10-11; joints of posterior pair as 58-32-29-14-8; calypters and halteres yellow, cilia of the former pale yellow.

Wings dark grayish; second vein running rather close to the costa; third vein bent back toward its tip, then forward near the wing margin; tip of fourth vein before the apex of the wing; last section of fifth vein bowed backward in the middle, it is 55, cross vein twenty-four fiftieths of a millimeter long; wing narrow at base, widest just back of the tip of fifth vein.

Female.—Face a little wider than in the male; middle and hind tibiae yellow with extreme tip brown or black; joints of posterior tarsi as 45-32-21-11-10; fore coxae slightly darkened on basal half; cilia of calypters appear black in certain lights, yellow when viewed in other lights; wings broader, especially at base; anal angle quite prominent; second vein running at the normal distance from the costa; third vein only bent back a little toward the tip; fourth vein ending in the apex of the wing; last section of fifth vein bent backward at its middle as in the male.

Described from four males and two females, taken October 24, 1926, at Angol, Chile, by D. S. Bullock.

Type.—Male, Cat. No. 41040, U.S.N.M.

SYMPYCNUM FILIFORMIS, new species

Male.—Length 2.3 mm. Eyes contiguous; palpi white; proboscis brown; front black with brown pollen; antennae (fig. 34) yellow, third joint brown, triangular, nearly twice as long as wide.

Thorax green with thick yellowish brown pollen; humeri, edge of scutellum and more or less of the margins of the dorsum reddish yellow; pleurae largely yellow. Abdomen brown, venter and basal half of second segment yellow. Hypopygium (fig. 35) rather large, black with long yellow filamentlike appendages extending forward under the abdomen and reaching nearly to its base; these are fringed with long hairs.

Coxae, femora, and tibiae pale yellow; posterior femora and tibiae darker yellow; fore coxae with several black bristles at tip; femora nearly bare below; bristles of middle and hind tibiae very small; tarsi black from the tip of the first joint; fore tarsi (fig. 36) with the second joint swollen below on basal half and with long, bristly, black hairs on upper apical part of the joints; fore tibiae as 50; joints of fore tarsi as 26-14-11-7-9; those of middle tarsi as 38-18-16-9-6; joints of posterior pair as 19-25-19-10-8. Halteres yellow; cilia of the calypters black.

Wings grayish; third and fourth veins nearly parallel, third bent back a little near the tip, fourth ending in the apex of the wing; last section of fifth vein 24, cross vein fourteen-fiftieths of a millimeter long; anal angle of wing not at all prominent, the wing being narrowed at base.

Described from one male, taken by J. M. Aldrich, May 1, 1926, at El Salto, Antigua, Guatemala.

Type.—Male, Cat. No. 41042, U.S.N.M.

SYMPYCNUM BIPILUS, *new species*

Male.—Length 2 mm. Eyes contiguous, leaving a narrow whitish triangle below the antennae; palpi whitish; front black with gray pollen; antennae (fig. 37) yellow, third joint brown at tip, about as long as wide, somewhat triangular.

Thorax green, color obscured by brown pollen, which forms indistinct vittae; abdomen black; hypopygium small, lamellae small, yellow.

Coxae, femora and tibiae yellow, posterior femora blackish above; femora nearly bare below; posterior tibiae with only very short bristles, those on middle tibiae longer; fore and middle tarsi infuscated from the tip of the first joint; posterior tarsi (fig. 38) mostly black, second joint with two long white hairs at tip below, which are longer than the joint and extend backward; fore tibiae as 45; joints of fore tarsi as 16-4-4-3-5; joints of middle ones as 29-12-12-6-6; those of posterior pair as 19-13-15-13-10, hairs at tip of second joint as 15.

Wings uniformly tinged with brown; third and fourth veins parallel, fourth ending in the apex of the wing; last section of fifth vein

17, cross vein thirteen-fiftieths of a millimeter long; anal angle of wing not at all prominent.

Described from one male taken by J. M. Aldrich, May 1, 1926, at El Salto, Antigua, Guatemala.

Type.—Male, Cat. No. 41042, U.S.N.M.

Genus NOTHOSYMPYCNUM Wheeler

Nothosympycnum WHEELER, Proc. California Acad. Sci., vol. 2, 1899, p. 51.

NOTHOSYMPYCNUM UNIPILUS, new species

Male.—Length 3 mm. Face narrow, silvery white, its sides parallel; front bright shining blue-green; first antennal joint black (other joints broken off).

Dorsum of thorax shining blue-green, a little dulled with brown pollen; pleurae green with gray pollen. Abdomen and hypopygium blackish bronze, basal segments more brown, venter yellow. Hypopygium rather large, shining, its hairs pale, appendages very small, yellow.

Coxae, femora and fore and middle tibiae yellow; tips of posterior femora, and the posterior tibiae brownish; fore coxae with minute yellow hairs, without black bristles at tip; femora nearly bare below; bristles of posterior tibiae nearly as long as the diameter of the tibia; fore tarsi (fig. 41) black from the tip of the third joint, which has a long pale hair below near its middle; fore tibiae as 37; joints of fore tarsi as 4-31-11-15-7; first two joints of posterior tarsi as 21-25. Halteres yellow.

Wings slightly tinged with brown; third and fourth veins parallel, fourth ending in the apex of the wing; last section of fifth vein 37, cross vein ten-fiftieths of a millimeter long; wing narrowed at base.

Described from one male taken by J. M. Aldrich, May 1, 1926, at El Salto, Antigua, Guatemala.

Type.—Male, Cat. No. 41043, U.S.N.M.

This is very much like *furcatus*, new species, but the apical joints of fore tarsi are a little thicker, the third has a long hair below; this has small but distinct yellow hypopygial lamellae, while those of *furcatus* seem to be all black; the last section of fifth vein is a very little longer and the cross vein shorter in this form; the face is silvery white in this and more yellowish in *furcatus*.

NOTHOSYMPYCNUM FURCATUS, new species

Male.—Length 2.5 mm. Face wider above, narrow below, yellowish; front dark shining blue, almost violet, ocellar tubercle black; antennae broken off in the type.

Thorax blue-green dulled with brown pollen; pleurae green with gray pollen. Abdomen and hypopygium blackish bronze, the latter with pale hairs; base of abdomen yellowish brown, venter yellow; appendages of the hypopygium very small, black.

Coxae, femora, fore and middle tibiae and most of fore tarsi yellow; tips of posterior femora and most of their tibiae brown; middle and hind tarsi mostly black; bristles of posterior tibiae numerous and some of them nearly as long as the diameter of the tibia; fore tarsi (fig. 39) with the fourth joint a little longer than third and with little hooked hairs on upper surface; middle tarsi (fig. 40), second and third joints each with a thumblike fork or projection at tip, that on second reaching nearly to tip of third joint, that on third nearly half as long as fourth joint, each with long hairs at their tips; joints of fore tarsi as 3-30-13-14-6; those of middle ones, without the projections as 43-13-5-7-8; joints of posterior pair as 21-26-12?12?-7. Calypters yellow with a black tip and cilia; halteres yellow.

Wings slightly tinged with brown; third and fourth veins parallel, fourth ending in the apex of the wing; last section of fifth vein 35, cross vein eleven-fiftieths of a millimeter long; wing narrow at base.

Female.—Face wide, its pollen whitish; color of the front, thorax, abdomen and legs about as in the male; wings as in the male; fore tarsi black from the tip of the first joint; middle tarsi brown, hind tarsi black; joints of fore tarsi as 25-12-6-6-6; of middle ones as 32-12-10-6-6; joints of posterior pair as 19-23-12-9-8.

Described from one pair taken by J. M. Aldrich, May 1, 1926, at El Salto, Antigua, Guatemala.

Type.—Male, Cat. No. 41044, U.S.N.M.

Genus NEURIGONA Rondani

Neurigona RONDANI, Dipt. Ital. Prod., vol. 1, 1856, p. 142.—WHEELER, Proc.

California Acad. Sci., vol. 2, 1899, p. 72, table of species.—VAN DUZEE, Annals Ent. Soc. Amer., vol. 6, 1913, p. 22, table of species.

Saucropus LOEW, Monog. North Amer. Diptera, vol. 2, 1864, p. 224, table of species.

NEURIGONA BANKSI, new species

Male.—Length 4.2 mm. Eyes broadly contiguous, very nearly obliterating the face; front dark blue-green; palpi yellow; antennae yellow, third joint mostly brown, small, scarcely as long as wide, somewhat conical in outline.

Thorax yellow, darker on the dorsum; the depressed space before the scutellum a beautiful blue-green, entire disk of scutellum of same color, except a very narrow margin of yellow, also a narrow median

line of the same color on the dorsum of the thorax, extending forward from the depressed space and tapering to a point before reaching half-way to anterior edge of thorax, but in certain lights it can be traced all the way; lower surface of scutellum and the metanotum yellow, the latter with a very fine median metallic line. Abdomen yellow; second segment with a purplish black band which takes up more than half the dorsum of the segment, but tapers to a point on the sides; third and fourth segments of the same purplish color with only the posterior margins yellow; fifth segment very small, sixth seeming to form a part of the hypopygium, it is yellow, infuscated at tip and near the venter and covered with pale hairs; the rest of the hair on the abdomen is black. Hypopygium (fig. 42) black, with very small white lamellae, which are fringed with white hairs.

Coxae, femora and tibiae yellow with black hair and bristles; tarsi brown; fore tibiae as 98; joints of fore tarsi as 85-52-31-19-12; of middle tarsi as 100-40-32-18-10; joints of posterior pair as 108-37-48-40-9. Halteres yellow, the knobs appearing brown against a light background. Calypters pale yellow, their cilia and a narrow apical margin brownish.

Wings slightly tinged with yellow; third and fourth veins nearly parallel, fourth ending a little back of the apex of the wing; last section of fifth vein 32, cross vein twenty-one fiftieths of a millimeter long.

Female.—Almost like the male in color and form of wing; the face is narrow and ocher yellow; the fifth abdominal segment is similar to the fourth in color; ovipositor yellow with a black tip; joints of posterior tarsi as 50-58-40-18-10; cilia of the calypters more yellow than in the male.

Described from three males and two females taken by Nathan Banks at Barro Colorado Island, Panama Canal Zone; type, male, taken July 22; female, allotype, taken August 2, 1924, the paratypes were taken in June and July; also another female paratype was taken by C. M. Rouillard at La Providencia, Siquinala, Guatemala, this last is in the United States National Museum.

Type and *allotype* in the Museum of Comparative Zoölogy.

Paratype.—Female, Cat. No. 41045, U.S.N.M.

This is very much like *signifer* Aldrich, the male differs in the form of the hypopygium, both sexes differ in having the disk of the scutellum wholly bluish-green, except the margin, where the yellow of the lower surface extends over the edge a very little.

NEURIGONA MACULIPENNIS, new species

Male.—Length 4 mm. Eyes almost touching, leaving a narrow space above and below that is covered with grayish pollen; front

shining violet; antennæ yellow, small; palpi yellowish; lateral and inferior orbital cilia white.

Thorax and scutellum dark blue, the depressed space in front of the scutellum more bronze; lower surface of scutellum reddish; the minute hairs on the thorax and abdomen yellow; bristles of thorax black. Abdomen dark blue-green, the incisures narrowly blackish. Hypopygium (fig. 43) black, the small spatulate lamellae dark yellow.

Fore coxæ yellow with short, stiff, black hairs; middle and hind coxæ more brownish; femora and fore tibiae yellow; middle tibiae and tarsi yellowish with the extreme tips of tibiae and each tarsal joint brown; hind tibiae and tarsi brown; fore tarsi yellow with the last joint brown; joints of fore tarsi as 41-30-18-7-10; those of middle ones as 71-35-20-9-8; joints of posterior tarsi as 24-44-24-11-7.

Wings grayish, apical half with a dark cloud beginning a little before the cross vein and reaching from the costa to a little back of fourth vein and extending to fifth vein along each side of the cross vein; last section of fourth vein gently bent before the middle, then approaching third vein, reaching the wing margin before the apex of the wing; last section of fifth vein nearly twice as long as the cross vein.

Described from two males taken by August Busck February 2, 1911, at Paraiso, Panama Canal Zone.

Type.—Male, Cat. No. 41046, U.S.N.M.

Genus *THINOPHILUS* Wahlberg

Thinophilus WAHLBERG, Öfv. Kongl. vet. Akad. Förhandl., vol. 1, 1844, p. 37.—LOEW, Mon. North Amer. Diptera, pt. 2, 1864, p. 184.—WHEELER, Ent. News, vol. 7, 1896, p. 153; Proc. California Acad. Sci., vol. 2, 1899, p. 69.—VAN DUZEE, Annals Ent. Soc. Amer., vol. 19, 1926, p. 35, table of species.

THINOPHILUS PANAMENSIS, new species

Male.—Length, 2.7-3 mm. Face wide, dark green, almost black, with thin gray pollen; palpi yellow, darkened at base, cut off at apical end in a nearly straight line; antennae yellow, of the usual form; arista black; lower orbital cilia and beard white.

Thorax greenish black with slight coppery reflections, in well-preserved specimens covered with gray pollen, which gives it a mottled appearance. Abdomen very dark green with coppery reflections, nearly bare. Hypopygium (fig. 44) black, large, extending under the venter to the middle or even the base of third segment.

Coxæ black, anterior pair with yellow tips and short white hair; femora, tibiae and tarsi yellow; tarsi not or scarcely darker at their tips; bristles of hind tibiae as long as the diameter of the tibia; three first joints of hind tarsi as 15-15-10. Halteres yellow.

Wings more or less tinged with yellow in front; veins usually brown, except at the root of the wing, sometimes they are yellow with the apical part brown; third and fourth veins nearly parallel beyond the cross vein, the third bending back a very little toward its tip, fourth ending in the apex of the wing; last section of fifth vein 21, cross vein fifteen-fiftieths of a millimeter long.

Female.—Almost like the male; joints of posterior tarsi as 19-22-12-8-10.

Described from six males and five females; the *type*, *allotype*, and seven *paratypes* were taken by A. H. Jennings, on the beach at Old Panama; the other two *paratypes* were taken by A. Busck, March 14, 1912, at Corozal, Panama Canal Zone, at lights.

This would run to *thalassinus* Van Duzee in the table of species in the Annals Entomological Society of America (vol. 19, p. 36, couplet 19), but it is smaller, the hypopygium much more conspicuous, its yellow appendage also being shorter and directed forward, not downward as in that species; this form has the palpi cut off more or less squarely at tip; the first and second joints of posterior tarsi are of equal length, in *thalassinus* the first joint of hind tarsi is much longer than the second.

Type.—Male, Cat. No. 41047, U.S.N.M.

Genus MEDETERA Fischer

Medetera FISCHER, Progr. contenant une notice sur une Mouche carnivore, 1819, p. 10.—LOEW, Mon. North Amer. Diptera, part 2, 1864, p. 218, table of species.—WHEELER, Proc. California Acad. Sci., vol. 2, p. 20, table of species.—ALDRICH, Trans. Entom. Soc. London, part 3, 1896, p. 337.—VAN DUZEE, Proc. California Acad. Sci., vol. 9, p. 257, table of species.

There are before me eight species of this genus, all taken in Guatemala except *bella*. All are bright but rather dark green, nearly 3 mm. long, have at least two pairs of femora black, the tibiae and tarsi yellow, the latter sometimes more or less blackened (in *bella* the tibiae and tarsi are black); all have two pairs of scutellar bristles. These form a very distinct group in the genus; they may be separated in the following table:

KEY TO NEOTROPICAL SPECIES OF MEDETERA

- | | |
|--|-------------------------------------|
| 1. All tarsi plain..... | 2. |
| Fore tarsi modified..... | 4. |
| 2. Legs and feet wholly black..... | <i>bella</i> , new species. |
| Tibiae and tarsi yellow, tarsi more or less darkened at tip..... | 3. |
| 3. Antennae black..... | <i>planipes</i> Van Duzee. |
| Antennae yellow..... | <i>pallidicornis</i> , new species. |
| 4. Fore and middle femora largely black, hind femora yellow..... | 5. |
| All femora largely black..... | 6. |

5. Third joint of fore tarsi large at base, suddenly narrowed on apical half (fig. 45)----- *abrupta* Van Duzee.
Third joint of fore tarsi much enlarged below to apical end (fig. 46).
varipes, new species.
6. Antennae yellow; dorsum of thorax opaque with silvery white pollen when viewed from in front (fore tarsi, fig. 47)----- *pollinosa* Van Duzee.
Antennae black----- 7.
7. Upper edge of first joint of fore tarsi and whole of second joint black, second joint with a projection above at tip (fig. 49)----- *flavipes* Van Duzee.
First three joints of fore tarsi yellow, second joint without a projection (fig. 50)----- *scaura*, new species.

Of these eight species three were described by me in the Proceedings of the California Academy of Sciences (vol. 9, 1919), *planipes* and *flavipes*, on page 269, and *abruptus* on page 270.

J. M. Aldrich took two males of *planipes* May 25, 1926, at Tamau, Alta Vera Paz, Guatemala. The other five species are described below.

MEDETERA BELLA, new species

Female.—Length, 2.2 mm. Face, front, and anterior half of thorax are of a beautiful blue color, posterior half of thorax and scutellum green; antennae black, third joint small, rounded; arista brown, slender; hairs of the thorax and some of the smaller bristles yellow; large bristles and those above fore coxae black; scutellum yellow below, with two pairs of bristles; abdomen green with black hair; ovipositor yellow.

Coxae, femora, tibiae and tarsi black; knees slightly yellowish; fore coxae with black hair and bristles; joints of posterior tarsi as 14-25-15-7-7. Calypters, their cilia and the halteres pale yellow.

Wings grayish, veins brown; last section of fifth vein 19, cross vein sixteen-fiftieths of a millimeter long; venation normal.

Described from one female taken by Nathan Banks June 23, 1924, at Barro Colorado Island, Panama Canal Zone.

Type.—In the Museum of Comparative Zoölogy.

This species can be easily recognized by the bright shining blue and green thorax, black legs and feet, black antennae, yellow hair on the thorax, and black hair on the abdomen.

MEDETERA POLLINOSA, new species

Male.—Length, 2.5 mm. Face and front black with violet reflections; antennae yellow, third joint short, rounded; arista yellowish; orbital cilia wholly black.

Thorax bright but dark green; when viewed from in front the ground color is nearly concealed by silvery white pollen; hairs and bristles of the thorax, including those above the fore coxae, black; scutellum with two pairs of bristles. Abdomen nearly black with

pale hair; hypopygium rather small, black, becoming yellowish on apical half; it has pale yellow lamellae (fig. 52) with two long hairs at tip and several curled and branched ones below.

Coxae and femora black; fore coxae with pale hair; tips of femora broadly yellow; tibiae and tarsi yellow, the tarsi scarcely darker at tip; fore tarsi (fig. 47) with the third joint (fig. 48) enlarged and with a thin, translucent plate on one side; this plate has long bent hairs on the edge of apical portion; joints of fore tarsi as 20-14-10-5-5; of middle ones as 27-10-7-8-5; joints of posterior pair as 13-27-17-7-6. The bristles of the tibiae appear yellow, at least in certain lights; halteres pale yellow.

Wings grayish, veins brown; last section of fifth vein 15, cross vein eleven-fiftieths of a millimeter long; venation normal.

Described from one male, taken by Nathan Banks, June 27, 1924, at Barro Colorado Island, Panama Canal Zone.

Type.—In the Museum of Comparative Zoölogy.

MEDETERA SCAURA, new species

Male.—Length, 3 mm. Face and front blue or violet, the latter green along the orbits; antennae black, third joint small, scarcely as long as wide, rounded, with an apical arista; lateral and inferior orbital cilia yellow.

Thorax and abdomen shining green, their hairs and bristles black, in one specimen the thorax and scutellum have violet reflections; lateral edges of the thorax with a narrow coppery streak; scutellum with two pair of bristles; propleurae with two short, black bristles above each fore coxa. Hypopygium pedunculate, black with yellow appendages.

Coxae and femora black; tips of femora, the tibiae and tarsi yellow, last one or two joints of the tarsi black; fore and middle coxae with pale hairs on anterior surface; fore femora with a few black bristles near the tip on lower posterior edge; posterior femora with two rather large bristles near the middle of anterior surface; hair on all femora black and conspicuous; fore tarsi (fig. 50) widened from the base to tip of third joint; last two joints very small, black, third joint rounded at tip; joints of fore tarsi as 24-15-15-3-5; those of middle ones as 32-18-14-6-7; joints of posterior pair as 17-31-22-10-8. Calypters, their cilia, and the halteres yellow.

Wings a little grayish, veins yellowish brown; last section of fifth vein 20, cross vein nineteen-fiftieths of a millimeter long; venation normal.

Described from five males taken by J. M. Aldrich; two were collected April 14 and 16, 1926, at La Providencia, Obispo, Guatemala; the other three at Coban, Alta Vera Paz, Guatemala, May 20, 1926.

Type.—Male, Cat. No. 41048, U.S.N.M.

MEDETERA PALLIDICORNIS, new species

Male.—Length, 2.5 mm. Face and front green; apical part of proboscis and the palpi yellow; antennae wholly yellow, third joint rounded; arista apical, yellow at base, more brown at tip; lower orbital cilia yellow.

Thorax and abdomen green; dorsum of thorax with brown pollen, which is visible when viewed from in front; propleurae with one black bristle above each fore coxa; scutellum with two pair of bristles; bristles of thorax black; hairs of abdomen pale, the bristles on the hind margins of the segments black. Hypopygium (fig. 51) blackish with yellow appendages, the outer lamellae rather long, curved with curled hairs, some of which are branched.

Coxae and basal half or more of femora black; apical part of femora, the whole of the tibiae and tarsi, together with their hairs and most of their bristles yellow; hairs of fore coxae yellow; tarsi plain; joints of fore tarsi as 27-14-10-5-5; those of middle pair as 30-14-10-3-4; joints of posterior tarsi as 18-30-17-8-6. Calypters, their cilia, and the halteres yellow.

Wings grayish, veins yellowish, costa brown; last section of fifth vein 22, cross vein twelve-fiftieths of a millimeter long.

Female.—About the same as the male; wings the same; joints of posterior tarsi about the same length as in the male.

Described from two pairs taken by J. M. Aldrich, April 16, 1926, at La Providencia, Obispo, Guatemala.

Type.—Male, Cat. No. 41049, U.S.N.M.

MEDETERA VARIPES, new species

Male.—Length 3 mm. Face, front and anterior part of thorax blue, sometimes the latter blue-green; antennae black, third joint small, rounded; arista apical; proboscis and palpi black; lower orbital cilia yellowish.

Posterior part of thorax and the abdomen green; dorsum of thorax with gray pollen, which is conspicuous when seen from in front; bristles of the thorax black, anterior part of thorax with minute yellow hairs; hairs of the abdomen yellow; bristles above fore coxae black; scutellum with two pair of bristles. Hypopygium black, its appendages yellow, among these is a slender yellow filament, fringed on one side with long hairs.

Coxae, basal half of fore femora and basal four-fifths of middle ones black; hairs of fore coxae yellow; apical part of fore and middle femora, whole of posterior femora, trochanters, all tibiae and tarsi yellow, tips of tarsi darkened; hairs of femora and tibiae yellow, except a few long black hairs on upper basal part of posterior femora; fore tarsi (fig. 46) with third joint enlarged on the side,

this enlargement being almost lobelike; first joint of hind tarsi with nine long spines below and one short one above; joints of fore tarsi as 28-13-12-5-5; of middle ones as 32-17-13-6-5; joints of posterior pair as 17-36-21-9-7. Calypters, their cilia and the halteres yellow.

Wings a little grayish, veins yellowish, costa brown; venation normal; last section of fifth vein 20, cross vein fourteen-fiftieths of a millimeter long.

Described from four males, taken by J. M. Aldrich, April 16, 1926, at La Providencia, Obispo, Guatamala.

Type.—Male, Cat. No. 41050, U.S.N.M.

This is very much like *minor* and *palestris* Becker, described from Paraguay and Peru, it differs from both in the color of the legs and feet, also more or less in the form of the fore tarsi.

MEDETERA FLAVISETA, new species

Male.—Length, 2 mm. Face dark green, almost black; antennae black, third joint conical in outline, pointed at tip, nearly twice as long as wide; ocular bristles yellow.

Thorax dark green, the depressed space on posterior slope coppery; bristles of thorax yellow (bristles of scutellum broken off); bristles above fore coxae whitish. Abdomen blackish green with coppery reflections, its hair pale. Hypopygium black, somewhat shining, with small yellow appendages.

Coxae black; fore and middle femora blackened at base, posterior pair almost wholly yellow; tibiae and tarsi yellow, tips of the tarsi black; joints of fore tarsi as 10-12-10-4-5; of middle ones as 19-19-12-9-4; joints of posterior pair as 8-24-14-9-6. Calypters, their cilia, and the halteres yellow.

Wings grayish; venation normal; last section of fifth vein 14, cross vein seven-fiftieths of a millimeter long.

Described from one male, taken by Nathan Banks, July 13, 1924, at Barro Colorado, Panama Canal Zone.

Type.—In the Museum of Comparative Zoölogy.

Genus THRYPTICUS Gerstaecker

Thrypticus GERSTAECKER, Stettin. Ent. Zeit., 1866, p. 43.—WHEELER, Psyche, vol. 5, 1890, p. 375 (*Aphantotimus*); Proc. California Acad. Sci., vol. 2, 1899, p. 30, table of species.—ALDRICH, Trans. Ent. Soc. London, 1896, p. 339 (*Xanthotricha*).—VAN DUZEE, Psyche, vol. 22, 1915, p. 84, table of species; Psyche, vol. 28, 1921, p. 124, table of species.

THRYPTICUS ACUTICAUDA, new species

Male.—Length 2 mm. Upper part of face and the front violet, lower part of face green; antennae dark yellow with the third joint black.

Thorax bright green, the depressed space before the scutellum coppery; abdomen blue-green; bristles of the thorax and the minute hairs on the abdomen yellow; the very small bristles on the hind margins of the abdominal segments and the bristles of the head black. Hypopygium (fig. 53) black with purple reflections, truncate at tip, its lamellae pale yellow, brown at tip, large and with the tip drawn out into a point, there are three or four long hairs on upper edge.

All coxae brown with yellow tips; femora, tibiae and tarsi pale yellow, tarsi scarcely darker at tip; joints of middle tarsi as 20-11-7-5-4; of posterior pair as 12-17-10-6-6.

Wings a little grayish, veins yellowish brown; fourth vein only slightly bent back at the cross vein, ending in the apex of the wing; fifth vein nearly straight; cross vein 8, last section of fifth vein twenty-five fiftieths of a millimeter long.

Described from one male, taken by J. M. Aldrich, May 1, 1926, at El Salto, Antigua, Guatemala.

Type.—Cat. No. 41051, U.S.N.M.

This differs from *amoenus* Becker (Bolivia) in having the hypopygial lamellae pointed at tip with several long hairs below, in *amoenus* they are also pointed, but with a long filament at tip. From *pusillus* Aldrich it differs in having all coxae blackened and in not having any inner appendages visible.

OEDEMATOPUS, new genus

This belongs to the *Hydrophorinae*. It differs from *Liancalus* in having no long bristles near the posterior margin of the abdominal segments and also in having the fore femora a little thickened at base, as in *Scellus* and *Hydrophorus*. It differs from the last two genera in having only fine hairs on lower surface of fore femora in both sexes. It differs from all three genera in having the posterior cross vein and last section of fourth vein nearly in the same line and both nearly parallel with the posterior margin of the wing.

The face is wide, reaching to or a little below the lower margin of the eyes; first antennal joint bare above; arista dorsal, nearly bare; palpi large in both sexes; proboscis large; one pair of ocellar bristles. No acrostichal bristles; dorsocentrals reduced to small hairs before the suture; scutellum with one pair of large marginal bristles, which are convergent; there are two bristles of considerable size above the root of the wing. Abdomen and the hypopygium of the male formed about as in the genus *Hydrophorus*; femora and tibiae without bristles in the male, with a few small ones in the female; base of the fore femora a little enlarged; first joint of hind tarsi a little longer than second. Last section of fifth vein very short, cross vein long, nearly six times as long as last section of fifth vein; sixth vein present.

In Doctor Aldrich's table of genera in Williston's Manual of North American Diptera this would run to *Plagioneurus*; in that genus the cross vein is far from the wing margin, the dorsocentral and post-ocular bristles are large, in this all these bristles are wanting in both sexes, except the hairlike dorsocentrals.

The name is suggested by the thickened posterior legs of the male.

Type of genus.—*Oedematopus crassitibia*, new species.

OEDEMATOPUS CRASSITIBIA, new species

Male.—Length 4.5 mm.; of wing 6 mm. Face, front, and palpi covered with silvery white pollen; front about one-fourth as long as the face, rather narrow, being about as wide as the lower part of the face; face a little narrowed above, but wide even at the antennae, the ridge separating the upper and lower portions of the face distinct and a very little below the middle, lower part nearly round, the lower edge evenly rounded and reaching slightly below the lower corner of the eyes; palpi large, longer than wide, almost pointed at tip, the inner edge almost straight, outer rounded, the black ground color showing through the white pollen a little, there are small black hairs near the tip, lying close against the large, black proboscis; antennae rather small, first joint bare above, second with short bristles, third rounded, about as long as wide; arista bare, dorsal, more than twice as long as the antennae; occiput blue with green reflections above, dulled with white pollen; about six black orbital bristles on upper orbits; beard scattering, yellowish; no postvertical bristles; one pair of short, straight ocular bristles.

Thorax green, not shining, even the posterior part dull, the anterior portion and most of the dorsum appear velvety blackish brown when viewed obliquely; the sides above the pleurae, from the root of the wing, extending upward at the suture and including the humeri are blue and thickly covered with white pollen; on each side above and inside of the humeri, but quite widely separated from them, is a long silvery-white pollinose spot, which is nearly round, from the inner side of which is a narrower white pollinose stripe extending back parallel with the middle of the dorsum; the pollen forming this stripe is white but not silvery and fades out posteriorly near the middle of the dorsum; pleurae green with white pollen; scutellum blue with a pair of moderately long slender bristles; metanotum blue with white pollen; one short humeral bristle; no acrostichal bristles; several small slender hairs represent the dorsocentral bristles; there are two longer bristles on each side above and back of the root of the wing. Abdomen (fig. 77) formed about as in *Hydrophorus*, short and thick, without bristles and covered on the side with white pollen; it is black with green and blue reflections, sometimes quite bright on upper surface and sometimes almost wholly dull black. The hypopy-

gium is moderately large with small, blackish lamellae, which are narrow with nearly parallel sides and blunt tip; hairs of abdomen black, short, with a few pale ones mixed with them.

Fore coxae and all femora green, dulled with white pollen, the former with long yellowish hair; all trochanters yellow; fore and middle femora moderately but distinctly thickened at base, the former with slender yellowish hairs below; middle femora with a row of minute black spines below, at base double; hind femora a very little compressed with a close set row of black spines or short bristles below (fig. 78); fore and middle tibiae blackish, the former without bristles but with yellow tomentum below; posterior tibiae black with brown pollen and pale brown very short hair (fig. 78), greatly inflated, almost as thick as wide, evenly rounded from base to tip, widest near the middle. All tarsi blackish, the posterior pair have a peculiar stiff tapering appearance, as in figure 78; length of posterior femora as 120, width as 17; length of their tibia as 190, width near the middle as 47; joints of fore tarsi as 57-16-10-8-18; of middle ones as 77-21-10-7-15; joints of posterior ones as 46-34-19-11-17. Calypters whitish with brown edge and yellowish cilia; halteres yellow.

Wings dark grayish; more than three times as long as wide; first vein not quite reaching the middle of the wing; second and third veins nearly parallel, but slightly divergent to their tips; last section of fourth vein slightly bisinuous, nearly parallel with the wing margin, and in approximately the same line as the cross vein; its tip not far back of the tip of third vein; apex of wing at tip of third vein, or perhaps between the tips of third and fourth veins, the wings being a little widened at tip; cross vein parallel with the hind margin of the wing; last section of fifth vein very short; cross vein 74, last section of fifth vein if continued to wing margin would be 13 and last section of fourth vein about ninety-five fiftieths of a millimeter long; sixth vein strong, tapering, not reaching the wing margin.

Female.—Thorax about as in the male, the scutellum green with brownish pollen. Face and front wide, very much as in *Pelastoneurus*; upper part of face velvety brown, below the suture brown in the middle, broadly whitish pollinose along the orbits and on lower edge, it extends down nearly or quite as far as in the male; front yellowish-brown pollinose; ocular bristles short and straight as in the male; palpi about as in the male in form and size, mostly velvety brown; hind femora bent, without spines below; fore and middle femora scarcely enlarged at base; without spines or long hair below. Abdomen depressed, blue with purple and green reflections, its hairs as in the male, except that there is a cluster of long black hairs on each side of first segment and long yellowish hairs on posterior mar-

gin of fifth ventral segment. Posterior tibiae and tarsi normal, of about equal length, first joint of hind tarsi about as long as the following two joints taken together. Calypters, their cilia, the antennae, and wings about as in the male.

Described from five males and four females, all taken by J. M. Aldrich, May 1, 1926, at El Salto, Antigua, Guatemala.

Type.—Male, Cat. No. 41052, U.S.N.M.

The wing venation is almost the same as that of *Liancalus vidua* Becker, and figured by him,² and described from a female taken in Peru. These probably belong to the same genus, but *vidua* Becker has black cilia on the calypters and also differs in other characters.

Genus PARACLIUS Loew

Paraclius LOEW, Mon. North Amer. Diptera, pt. 2, 1864, p. 97.—WHEELER, Proc. California Acad. Sci., vol. 2, 1899, p. 18, table of species.—ALDRICH, Biologia, Diptera, vol. 1, 1902, p. 337, table of Mexican species; Kansas Univ. Sci. Bull., vol. 1, 1900, p. 47, table of species; Trans. Amer. Ent. Soc., vol. 30, 1904, p. 272, combined table of species of *Pelastoneurus*, *Paraclius*, and *Sarcionus*.—? *Paracleius* BIGOT, Annales Soc. Entom. France, 1859, p. 215.

PARACLIUS VENUSTUS Aldrich

Paraclius venustus ALDRICH, Biologia, Diptera, vol. 1, 1902, p. 340.

Paraclius ovatus VAN DUZEE, Ent. News, vol. 25, 1914, p. 436.

Seventeen males and females were taken by J. M. Aldrich; six of them, April 14 and 16, at La Providencia, Guatemala; the rest, May 7, at Quirigua, Guatemala.

PARACLIUS NIGRIPES Aldrich

Paraclius nigripes ALDRICH, Kansas Univ. Sci. Bull., vol. 1, 1902, p. 78.

J. M. Aldrich took one male, May 25, 1926, at head of Polochic River, Alta Vera Paz, Guatemala; C. T. Greene took five, April 16 and 26, at Barro Colorado Island, Panama Canal Zone.

PARACLIUS ALBONOTATUS Loew

Paraclius albonotatus LOEW, Mon. of North Amer. Diptera, pt. 2, 1864, p. 102.

C. T. Greene took two females at Barro Colorado Island, Panama Canal Zone, April 17, 1926.

PARACLIUS ARCUATUS Loew

Paraclius arcuatus LOEW, Neue Beitr., No. 8, 1861, p. 39; Mon. North Amer. Dipt., vol. 2, 1864, p. 101.

One female, taken by J. M. Aldrich, at Ingenio Railroad Station, west of Guatemala City, April 28, 1926.

² American Dolichopodidae, 1921, p. 119, fig. 47.

PARACLIUS species

Six females were taken by J. M. Aldrich in Guatemala; these probably represent three species, but I have not been able to determine them.

PARACLIUS ANGUSTIPENNIS, new species

Female.—Length 2 mm. Face narrow, white; front dull with brownish pollen; antennae wholly black, third joint small, somewhat rounded, irregular on apical margin; arista short, pubescent; lateral and inferior orbital cilia white.

Thorax and abdomen green, quite shining. Coxae, femora, posterior tibiae and all tarsi wholly black; trochanters and fore and middle tibiae yellow; all femora with a row of black hairs below, which are longer than the hairs on upper edge; joints of fore tarsi as 18-9-7-5-6; of middle ones as 29-20-17-12-9; joints of posterior tarsi as 22-31-20-7-8. Calypters and halteres yellow, the former with black cilia.

Wings uniformly tinged with brown, rather narrow; third vein straight; last section of fourth vein with a broad, gradual bend near its middle, arched beyond this bend so as to approach third vein and run parallel with it for a short distance at tip, reaching the wing margin a considerable distance before the apex of the wing; last section of fifth vein 23, cross vein seven-fiftieths of a millimeter long.

Described from one female taken by J. M. Aldrich, April 14, 1926, at La Providencia, Obispo, Guatemala.

Type.—Female, Cat. No. 41053, U.S.N.M.

PARACLIUS ALBITALUS, new species

Male.—Length 3.6 mm. Face silvery white, narrow above, wider below, the portion below the suture almost round and a little concave; front shining blue or violet; antennae yellow, third joint brown at tip, nearly round with a small point at tip; lateral and inferior cilia and the bristles below the head yellowish, a few of the upper cilia black.

Dorsum of thorax green with blue or violet reflections and brown pollen when viewed from in front; pleurae more black with white pollen; there is no velvety black spot above the root of the wing. Abdomen green, upper part of dorsum more blue, the spots of white pollen on the sides of the segments conspicuous. Hypopygium and its lamellae black, the latter yellow at base, with apical part rounded, tapering abruptly at base into a yellow petiole, fringed with pale hairs.

Coxae black with extreme tips and the trochanters yellow; anterior coxae with black hair; all femora blue with extreme base and tips

yellow; fore tibiae yellow on outer surface, white on upper and inner sides, the upper surface broad, flattened or a little concave, glabrous, on each edge with a row of close set, short, black hairs; inner surface also somewhat flattened and mostly glabrous on apical half or more; middle and hind tibiae yellow, the latter a little blackened at tip. Fore tarsi with the first joint white, sharply black at tip, its hairs black; middle tarsi black from the tip of the first joint, yellow at base; posterior tarsi mostly black. Joints of fore tarsi as 26-8-7-5-7; of middle ones as 42-20-14-10-10; joints of posterior pair as 32-33-17-14-10. Calypters, their cilia and the halteres yellow.

Wings grayish; costa without enlargement; last section of fourth vein abruptly bent near the middle, beyond the bend conspicuously arched, apical fourth nearly parallel with third vein, which is a very little bent back toward its tip; last section of fifth vein 20, cross vein twenty-two fiftieths of a millimeter long; fourth vein ending in the wing margin a little before the apex of the wing.

Described from one male, taken by Nathan Banks, July 26, 1924, at Barro Colorado Island, Panama Canal Zone.

Type.—In the Museum of Comparative Zoölogy.

PARACLIUS SIMPLEX, new species

Male.—Length 3.6 mm. Face silvery white, narrow below, wider above, reaching slightly below the eyes; front shining blue; antennae yellow with upper edge black, third joint nearly round in outline; lateral and inferior orbital cilia whitish.

Thorax green, dorsum with blue reflections, pleurae with white pollen. Abdomen green, more or less of posterior part of segments purple, sixth segment extending a little over the hypopygium, small, yellow with a black tip. Hypopygium greenish black, large and closely applied to the venter, with two spots of white pollen at base; its lamellae yellow, of moderate size and as near as I can see of a circular shape.

Fore coxae wholly yellow with black hair and bristles; middle and hind coxae largely black; femora and tibiae yellow, extreme tips of posterior pair a little brown; tarsi black from the tip of the first joint, hind tarsi with the black extending nearly to the base on one side and with a long bristle at base below. Joints of fore tarsi as 30-10-7-6-6; those of middle ones as 44-26-18-10-10; first two joints of posterior pair as 35-39. Calypters and halteres yellow, the former with black cilia.

Wings uniformly tinged with brown; costa without an enlargement; third vein a little bent back at tip; last section of fourth vein bent a little before its middle, conspicuously arched beyond the

bend, then gradually approaching third at tip, reaching the wing margin a little before the apex of the wing.

Described from one male, taken by Nathan Banks, July 26, 1924, at Barro Colorado Island, Panama Canal Zone.

Type.—In the Museum of Comparative Zoölogy.

PARACLIUS PARVICAUDA, new species

Male.—Length 3 mm. Face and front silvery white; face narrow, a little wider below, suture near apical fourth, lower portion a little longer than wide, almost pointed at tip; antennae wholly black, third joint nearly round; arista pubescent; palpi black; lateral and inferior orbital cilia yellowish white.

Thorax dark green; pleurae with silvery white pollen; the velvety black stripe above the root of the wing is not conspicuous, the white spot at the suture large, but the white does not quite conceal the ground color, it extends as a curved line over the humeri. Abdomen green with white pollen; hypopygium very small, black, scarcely reaching beyond the venter of the fifth segment, tapering toward its tip; lamellae not very small, black, rounded at tip, a little longer than wide.

All coxae and femora black; trochanters yellowish; fore tibiae rather thick, yellow, the upper edge with silvery white pollen; middle tibiae yellow with posterior surface more brown; hind tibiae yellow with apical third black; middle tibiae with two large bristles below and a small one between them; fore tarsi sharply black from the tip of the first joint, middle and hind ones wholly black; joints of fore tarsi as 30-11-9-7-10; of middle ones as 43-23-17-9-9; those of posterior pair as 31-35-22-12-10. Calypters and halteres yellow, cilia of the former black.

Wings dark grayish; costa not thickened; third vein nearly straight; last section of fourth vein abruptly bent a little before its middle, nearly parallel with third for some distance before their tips, fourth reaching the wing margin before the apex of the wing; cross vein and last section of fifth vein each twenty-one fiftieths of a millimeter long; hind margin of wing notched at tip of fifth vein.

Female.—Almost like the male in form and color of head, thorax, abdomen, legs, and feet, except that the fore tibiae are not so silvery on upper surface and middle tibiae are mostly yellow, not being so brown on posterior surface.

Described from one pair taken by C. M. Rouillard at La Providencia, Siquinala, Guatemala.

Type.—Male, Cat. No. 41054, U.S.N.M.

PARACLIUS ALDRICHI, new species

Male.—Length 4 mm. Face golden yellow, reaching the lower margin of the eyes, narrow in the middle, wider below, the portion below the suture a little longer than wide, lower edge rounded; palpi and proboscis black with minute pale hairs; antennae yellow with a black spot at base of arista, third joint somewhat conical, slightly longer than wide; front blue-green with yellowish pollen; orbital cilia wholly black.

Thorax blue-green, anterior part of dorsum covered with yellowish-brown pollen, posterior part shining; pleurae with silvery white pollen; the pollen at the transverse suture is yellowish white, above the root of the wing there is a nearly round spot of white pollen. Abdomen dark green, posterior margins of segments more blue-black, segments with large spots of white pollen on their sides. Hypopygium and its lamellae black, petiole of the latter yellow at base; lamellae formed about as in *subpubescens* Becker, they are broader than long, somewhat rectangular in outline with the basal corner rounded, with delicate pale hairs and a few stouter black bristles near the tip; inner appendages small, pale yellow.

The whole of fore coxae, tips of middle ones, most of posterior coxae, and all femora and tibiae yellow; fore coxae with small black hair on anterior surface and several bristles on apical half of outer edge; fore tibiae formed about as in *fusiformis* Becker (fig. 57), but more narrowed at base, flattened and much widened on apical two-thirds, upper surface glabrous and silvery white, this glabrous area extends to the base but becomes more yellow and very narrow. The tibiae have a bristle on each edge near the middle; the anterior surface is also a little flattened, glabrous and white pollinose on apical two-thirds; middle tibiae with two large bristles below, posterior pair black at tip on inner surface; fore tarsi with most of first joint yellow; middle and hind tarsi blackish, more or less yellow at base; length of fore tibiae as 67, width at widest part, which is near apical third, as 16; joints of fore tarsi as 40-13-10-7-9; joints of middle tarsi as 49-27-21-13-11; those of posterior ones as 42-43-27-17-14. Calypters and halteres yellow, cilia of the former black.

Wings tinged with brownish gray; third vein nearly straight; last section of fourth vein sharply bent near its middle, then arched so that its apical fourth runs parallel with third vein, its tip before the apex of the wing; cross vein 28, last section of fifth vein twenty-four fiftieths of a millimeter long.

Female.—Wings and general color about as in the male; antennae black on the upper half; face a little wider than in the male, whitish, strongly tinged with yellow, sometimes almost brownish yellow; color

of legs and feet as in the male, fore tibiae normal, yellow; joints of tarsi about as in the male; the spot of pollen at the transverse suture is more white than in the male, the spot of white pollen above the root of the wing is conspicuous.

Described from five males and three females, taken by J. M. Aldrich, May 25, 1926, at Tamau, Alta Vera Paz, Guatamala.

Type.—Male, Cat. No. 41055, U.S.N.M.

PARACLIUS LATITIBIA, new species

Male.—Length 3.6 mm. Face reaching lower border of the eyes, golden yellow, narrow above, wider below, portion below the suture nearly round, but obtusely pointed on the lower margin. Antennae yellow, third joint a little longer than wide, rounded and brown at tip; arista nearly bare; orbital cilia wholly black.

Dorsum of thorax shining green, dulled with brown pollen when viewed from in front, the space between the humeri and root of wings covered with silvery white pollen; pleurae with silvery pollen. Abdomen blackish with green and purple reflections; sides of segments with large spots of silvery white pollen, the ground color of these spots green. Hypopygium yellow, black at base, the lamellae yellow, fringed with pale hairs and with a few black bristles at base.

Fore coxae yellowish brown with black hairs and bristles, middle ones black with a yellow tip, posterior pair black at base, yellow on apical half or more; femora and tibiae wholly yellow; fore tibiae (fig. 55) greatly flattened, elongate oval, 65 long to 23 wide, upper surface wholly glabrous, covered with silvery white pollen, the hairs on anterior edge and at tip white, the other hairs and the bristles black, lower surface with a glabrous space, which extends the whole width at tip and runs obliquely to the middle of anterior edge; fore tarsi white, more yellow toward their tips; middle and hind tarsi black from the tip of the first joint; posterior basitarsus with a large bristle below. Joints of fore tarsi as 30-11-9-6-6; of middle ones as 50-27-19-10-7; joints of posterior tarsi as 34-39-24-13-11. Calypters and their cilia black; halteres yellow.

Wings dark gray; costa without an enlargement; third vein nearly straight, last section of fourth vein abruptly bent before its middle, much arched beyond the bend, parallel with third vein for about two-thirds the distance beyond the bend in fourth, reaching the wing margin a little before the apex of the wing; last section of fifth vein 21, cross vein twenty-three fiftieths of a millimeter long.

Female.—The female (as I have associated the sexes) has the face silvery white; the upper edge of the fore tibiae is distinctly flattened, but not widened, the flattened stripe is glabrous and silvery white; fore tarsi mostly yellow. Otherwise about as in the male.

Described from three males and three females, taken by J. M. Aldrich, May 25, 1926, at Tamau, Alta Vera Paz, Guatemala.

Type.—Male, Cat. No. 41056, U.S.N.M.

This is closely related to *fusiformis* Becker, described from Peru.³ It differs from that species in having the fore tibiae broader and not narrowed at base as in that species; fore tarsi whiter; third antennal joint longer and the face golden yellow. *Paraclius aldrichi*, new species, is even more like *fusiformis*, as the fore tibiae are formed just as in that species, but differs from it in having the face golden yellow and in having the hypopygium and its lamellae wholly black, except the petioles of the lamellae which are yellow. It differs from *latitibia* in having the fore tibiae narrowed at base (about as in fig. 57) and in the hypopygium and their lamellae being black.

PARACLIUS FUSIFORMIS Becker

Paraclius fusiformis BECKER, Abh. Zool.-Bot. Ges. Wien, vol. 13, 1921, p. 49.

Third antennal joint nearly round in outline, not longer than wide; the lamellae of the hypopygium (fig. 56) are fringed with pale hairs and have black bristles at base; the face is silvery white when viewed from above, velvety brown when seen from in front; the fore tibiae (fig. 57) are 65 long to 16 wide at the widest part, the basal part for a short distance is of nearly the usual form, the upper surface glabrous and silvery white, the lower surface does not have the glabrous space found in *latitibia* described above; the orbital cilia are wholly black, as are also the calypters and their cilia; the hind tarsi have a large bristle below near the base of first joint, but it is not erect; joints of fore tarsi as 34-14-11-10-7; those of middle ones as 59-25-15-9-8; joints of posterior ones as 49-45-27-15-11; hypopygium largely yellow, black at base, its lamellae pale yellow; wings about like those of *latitibia*, and like those figured by Becker in his description (p. 50, fig. 4).

The above description and the drawings were made from two males taken by Nathan Banks July 15 and 18, 1924, at Barro Colorado Island, Panama Canal Zone.

PARACLIUS ALBIMANUS, new species

Male.—Length, 2.6 mm. Face silvery white, rather wide, a little narrower below; front blue-green; antennae yellow, third joint mostly brown, not longer than wide, rounded at tip; arista with long pubescence, almost plumose; lateral and inferior orbital cilia white.

Thorax green with brown pollen, which is visible when viewed from in front. Abdomen green with bronze reflections and spots of

³ American Dollehopodidae, 1921, p. 49.

white pollen on the sides of the segments; hypopygium of moderate size, its lamellae oval, yellowish white, with a very narrow brown border and pale hairs.

Coxae, femora, and tibiae yellow; fore coxae with small black hairs; fore tarsi with the first joint wholly brown, last three white, in some lights more yellowish white. last joint a little darkened at tip, third and fourth joints with white hair; middle and hind tarsi dark brown; middle basitarsi with a row of little bristles below, which have their tips bent; posterior basitarsi with one or two bristles below near the base and one above at tip; fore basitarsi with bristles below, some of which are considerably longer than the diameter of the joint; joints of fore tarsi as 24-11-8-6-6; of middle ones as 31-19-16-11-8; joints of posterior pair as 26-35-25-18-8. Calypters and halteres yellow, the former with black cilia.

Wings grayish, a little darker in front; costa not thickened; third vein nearly straight, only slightly bent backward at tip; last section of fourth vein bent just before basal third; beyond this bend it is slightly arched, but nearly straight, approaching third to wing margin, which it reaches distinctly before the apex of the wing.

Described from two males; one, the *type* taken by P. P. Calvert March 4, 1910, at Cachi, Costa Rica, near Rio Reventazon, at 3,450 feet elevation; the *paratype* was taken by J. M. Aldrich May 1, 1926, at Quirigua, Guatemala.

Type.—Male, Cat. No. 41057, U.S.N.M.

This is very much like *venustus* Aldrich, but differs in having the fore tarsi and their hairs partly white.

PARACLIUS ARGENTIMANUS, new species

Male.—Length 4 mm. Face narrow, wider below, brown when seen from in front, yellowish when viewed from above; palpi and proboscis brown; front green, covered with silvery white pollen when seen from the right angle; antennae black, third joint yellowish brown, scarcely as long as wide, cut off nearly straight at tip, arista inserted at upper corner, pubescent; lower orbital cilia white.

Thorax green, dorsum with reddish coppery reflections; pleurae and coxae covered with silvery white pollen and a curved line of the same below the humeri; a large spot of white pollen at the suture, which appears bluish in certain lights, and a small spot of white pollen on each side of the scutellum; abdominal segments blackish at extreme base, then coppery, shading into bronze with the posterior margins bluish; sides of the segments with large spots of white pollen. Hypopygium brownish black, large, not petiolate; its lamellae nearly round, moderately large, black, their hairs pale and their petioles yellowish; inner appendages bristlelike, one pair arising from small

tubercles; the central organ black, inserted at base of hypopygium and equaling it in length.

All coxae black with yellow tips and black hairs and bristles; all femora, tibiae and the fore tarsi yellow, middle and hind tarsi brown or black; posterior femora black on whole upper edge; upper edge of fore tibiae flattened but not widened, silvery white, glabrous, with two small bristles on anterior edge and three or four on posterior edge, anterior surface with a narrow streak of silvery pollen on apical half, posterior surface with one bristle on lower edge; middle tibiae with two large bristles on lower anterior surface and upper surface with two rows of large bristles and a silvery pollinose streak between them; posterior tibiae without a bristle below. Fore tarsi distinctly compressed, first joint widest, sides of all joints glabrous and silvery pollinose; first joint of hind tarsi with a stout, but not large or erect, bristle below near the base; joints of fore tarsi as 35-15-12-7-10; of middle ones as 50-27-22-11-10; joints of hind tarsi as 37-42-28-15-11. Calypters and halteres yellow, cilia of the former black.

Wings slightly tinged with brown, posterior margin gray; costa much thickened from the base of the wing, this thickening is a little narrowed before the tip of first vein, where it is again increased and from there tapering to its tip; third vein nearly straight; last section of fourth vein bent almost at a right angle beyond its middle, then arched so as to run quite close to and parallel with third vein for half the distance from the bend to the wing margin, which it reaches far before the apex of the wing; hind margin of wing distinctly indented at tip of fifth vein; cross vein 24, last section of fifth vein eighteen-fiftieths of a millimeter long.

Described from one male taken by J. M. Aldrich, April 16, 1926, at La Providencia, Obispo, Guatemala.

Type.—Male, Cat. No. 41058, U.S.N.M.

This is a very distinct species and can be recognized at once by the enlargement of the costa from the root of the wing, the compressed and silvery fore tarsi, black upper edge of posterior femora, and the black hypopygial lamellae.

PARACLIUS FRONTALIS, new species

Male.—Length 3.2 mm. Face silvery white, long, nearly reaching the lower margin of the eyes, narrow in the middle of upper portion, the part below the transverse ridge about as wide as long, rounded below; palpi and proboscis dark yellow; front bright shining green in the middle, the sides with thick white pollen; antennae yellow, third joint black at tip, about as long as wide, slightly rounded at tip, arista with very short pubescence; lower orbital cilia white.

Thorax dark blue-green, quite shining, but covered with brown pollen when seen obliquely; a narrow line of whitish pollen curves over the humeri, a large spot of silvery white pollen at the suture and a minute dot above the lateral corners of the scutellum. Abdomen black with metallic reflections. Hypopygium large, black, sessile, its lamellae moderately large, yellow with short yellow hair, nearly round, but a little pointed at tip.

Fore coxae yellow with very short black hair; middle coxae largely blackish, hind ones yellow, considerably blackened at base; femora and tibiae yellow; all femora with very short hair, no longer ones below; fore tibiae with one bristle on lower posterior edge; middle tibiae with two large bristles on lower anterior edge and one on lower posterior surface; all tarsi plain, blackened from the tip of the first joint; joints of fore tarsi as 39-13-9-8-10; of middle ones as 52-28-20-12-12; those of posterior pair as 41-42-29-12-12. Calypters and halteres yellow, cilia of the former black. Posterior basitarsi with a large but not erect bristle below near the base.

Wings slightly tinged with brown, gray on posterior margin; third vein slightly bent back at tip; last section of fourth vein bent just beyond its middle, then arched so as to be nearly parallel with third vein at tip, reaching the wing margin before the apex of the wing; cross vein 23, last section of fifth vein twenty-one fiftieths of a millimeter long; hind margin of wing scarcely indented at tip of fifth vein.

Described from one male taken by J. M. Aldrich at Tamau, Alta Vera Paz, Guatemala.

Type.—Male, Cat. No. 41059, U.S.N.M.

PARACLIUS TERMINALIS, new species

Male.—Length, 3 mm. Face rather wide, narrowed below, silvery white; front green; antennae yellow, third joint small, black at tip, not as long as wide; arista black, pubescent; lateral and inferior orbital cilia white.

Thorax and abdomen green with bronze reflections. Hypopygium small, black, yellow at tip; its lamellae white with a very narrow black border, oval, but not much longer than wide, with minute white hair.

All coxae, femora and tibiae yellow, tips of posterior tibiae blackened a little, middle ones also a little darkened at tip; hairs of fore coxae black; fore tarsi mostly yellow; middle tarsi (fig. 58) with first two joints reddish yellow, third and fourth black, fifth snow-white with white hair, last three joints a little flattened and widened, with long dense hair; hind tarsi wholly black; joints of fore tarsi as 30-12-9-6-6; of middle ones as 39-22-18-15-10; first four

joints of posterior pair as 31-38-27-19. Calypters and halteres yellow, the former with black cilia.

Wings gray; costa without thickening; third vein bent back at tip; last section of fourth vein bent before its middle, gently arched so as to approach third at tip, not or scarcely parallel with third at tip, reaching the wing margin just before the apex of the wing; last section of fifth vein 18, cross vein sixteen-fiftieths of a millimeter long.

Described from one male taken by J. M. Aldrich, May, 1926, at Antigua, Guatemala.

Type.—Male, Cat. No. 41060, U.S.N.M.

This is very much like *venustus* Aldrich in size, color, and form of hypopygial lamellae, but differs in having the middle tarsi ornamented.

PARACLIUS ACUTICORNIS, new species

Male.—Length, 3 mm. Face wide above, narrow below, covered with white pollen; palpi yellowish brown; antennae (fig. 59) yellow, the point and arista brownish, basal part of third joint nearly square with a long slender point extending from the middle, this is nearly as long as the basal portion; arista with long pubescence; front blue-green, almost without pollen; lateral and inferior orbital cilia whitish.

Dorsum of thorax blue with violet reflections and a little gray pollen; humeri a little yellowish; the velvety black stripe above the root of the wing distinct and reaching the suture, in front of which is a white pollinose spot, which reaches the humeri. Abdomen bright green with black hair and spots of white pollen on the sides of the segments; hypopygium yellowish brown; lamellae yellow at base, more brown apically, of moderate size.

Coxae, femora, tibiae, and fore tarsi wholly yellow, with short but very conspicuous black hair; middle and hind tarsi brown from the tip of the first joint; first joint of all tarsi have little spines below; joints of fore tarsi as 33-10-6-6-6; of middle pair as 44-24-19-13-8; joints of posterior tarsi as 26-41-23-14-8. Calypters, their cilia and the halteres yellow.

Wings grayish; first section of costa not at all thickened; last section of fourth vein with an abrupt curve forward near its middle, then arched so that its tip is near the tip of third vein and only a little in front of the apex of the wing; third vein only a very little bent backward at tip; last section of fifth vein 22, cross vein twenty-one fiftieths of a millimeter long.

Female.—Face about as wide as in the male, mostly green; antennae (fig. 60) smaller, the point at tip more obtuse and placed near lower corner; thorax blue-green, shining, humeri more yellow;

coxae, legs, and feet colored as in the male; cilia of the calypters black; venation about as in the male.

Type.—Male, taken by W. A. Kellerman, in Guatemala; *allotype*, female, taken by Nathan Banks, July 15, 1924, at Barro Colorado Island, Panama Canal Zone; both the above in the Museum of Comparative Zoölogy. A *paratype* in the United States National Museum was taken by C. M. Rouillard, at La Providencia, Siquinala, Guatemala.

Paratype.—Male, Cat. No. 41061, U.S.N.M.

Genus POLYMEDON Osten Sacken

Polymedon OSTEN SACKEN, Bull. U. S. Geological and Geographical Survey of the Territories, vol. 3, 1877, p. 317.—ALDRICH, Trans. Ent. Soc. London, 1896, p. 318; *Biologia*, Diptera, vol. 1, 1902, p. 333, tables of species.—VAN DUZEE, Annals Ent. Soc. Amer., vol. 20, 1927, p. 123, table of species.

POLYMEDON TRANSVERSUS, new species

Male.—Length 6 mm.; of wing the same. Face wide, flat, extending as far below the eyes as its width at half its length, where it is slightly narrowed; it is of a dark-bronze color down to above the lower margin of the eyes, where this color abruptly ends, the lower part being yellow and having a sharp median carina, the lateral edges also projecting forward so as to leave two broad, flat longitudinal depressions, the yellow portion tapering downward, but cut off straight at tip, not at all pointed; the pollen of the upper portion is arranged in transverse waves. Palpi large, somewhat round, yellow, covered with white pollen, with a stout black spine at the middle of lower edge and several delicate hairs. Front shining violet, this color extending over the vertex in the middle; occiput green with white pollen. Antennae black, lower edge of all joints a little yellowish, first joint hairy above, about one and a half times as long as wide, third joint rounded with the arista inserted above near the apex. About six of the upper orbital cilia on each side black, the lower cilia and the beard yellowish white and long.

Thorax blackish with purple reflections, its pollen gray, mostly confined to the anterior edge; acrostichal bristles and presutural dorsocentrals small, the former in two rows; pleurae and coxae covered with silvery white pollen. Abdomen green with black hair, white pollen on the sides abundant. Hypopygium (fig. 61) short and stout, greenish, its outer lamellae large, yellow, nearly round with short delicate yellow hair; there are also a pair of slender inner appendages and a pair of thin, somewhat triangular, shining black lateral appendages projecting downward; the central organ is rather stout, curved, reddish yellow, its sheath black, attached at the base of the hypopygium and scarcely reaching the tip.

Fore coxae yellow with two black bristles near the tip; middle and hind coxae black with a large black bristle on outer surface, that on middle ones near the base; femora and tibiae yellow; tarsi black, a little yellowish at base; fore femora with two long bristles below near the base and several small ones around them; joints of fore tarsi as 50-29-25-16-15; of middle ones as 85-47-34-16-18; joints of hind tarsi as 64-93-40-17-17. Calypters and halteres yellow, the former with black cilia, these cilia not long or dense as in some species. Pulvilli of fore tarsi very small, those on middle and hind tarsi wholly wanting; claws long and slender.

Wings long and narrow, gray, more brownish in front; costa with an enlargement at tip of first vein, which fills the costal cell at tip, widening at proximal end so as to touch second vein at one point, but this enlargement is only about twice as long as wide at its widest part, the side toward second vein rounded; last section of fourth vein quite abruptly bent just before its middle, parallel with third at tip, reaching the wing margin just before the apex of the wing; the cross vein less than its length from the wing margin measured on fifth vein; third vein slightly bent back toward its tip.

Female.—Face as in the male in color and form, except that there is a conspicuous transverse suture before the lower edge of the bronze part and the yellow portion has no distinct depressions with a sharp ridge between them as in the male; the lower edge is also rounded; the antennae are sometimes almost wholly black; costa without an enlargement; fore femora without the long bristles below; otherwise about as in the male.

Described from one male and four females, taken by J. M. Aldrich, May 11, 1926, at El Jicara, Zacapa, Guatemala.

Type.—Male, Cat. No. 41062, U.S.N.M.

POLYMEDON NIGRICORNIS, new species

Male.—Length, 4.5 mm. Face and front silvery white, face extending about twice its width below the eyes; palpi small, black, rounded; antennae (fig. 62) black; first joint with hairs above; third with a small yellowish spot below at base; proboscis black; lower orbital cilia rather long, whitish, the black cilia descend to about the middle of the eye.

Thorax shining green with violet reflections, which extend upon the base of the scutellum; a rather broad line of silvery white pollen extends from the root of the wing to the front of the thorax; pleurae and coxae with silvery white pollen. Abdomen green with spots of white pollen on the sides of the segments; hairs and bristles of the thorax and abdomen black. Hypopygium black, upper surface more yellow; its lamellae (figs. 63 and 64) somewhat triangular with a

short projection on the side and a long one at tip, the latter with long yellow hairs on the edge and long, slightly clavate yellow bristles on the surface of one side; the lamellae are yellow on basal part, brown at apex.

Fore coxae yellow with a narrow black ring near the base, anterior surface with a few minute black hairs; middle and hind coxae black with yellow tips; femora and tibiae yellow; tips of posterior femora slightly brown above, their tibiae also brown at tip on posterior surface; basal half or more of fore and middle tarsi yellow, hind tarsi almost wholly black; middle tarsi with the usual bend between second and third joints (fig. 65 shows the form of these joints from above), which only shows from the side; joints of fore tarsi as 51-16-13-9-13; those of middle ones as 68-29-23-15-13; joints of posterior pair as 51-53-35-21-17. Calypters brown with black cilia, which are very long and dense, more brown toward the tips of the hairs. Halteres yellow.

Wings (fig. 66) uniformly tinged with blackish brown; last section of fourth vein nearly evenly arched, its tip before the apex of the wing; last section of fifth vein bent, ending about half way to wing margin; first section of costa enlarged so as to fill most of the costal cell.

Female.—Color of all parts as in the male; face reaching a little below the eyes, ending in a rounded point; calypters yellow at base, black on apical half, their cilia normal, black; venation as in the male, except that the costa is not enlarged and fifth vein is curved, not bent as in the male and nearly or quite reaches the wing margin.

Described from five males and three females taken by J. M. Aldrich, May 25, 1926, at Tamau, Alta Vera Paz, Guatemala. All *paratypes* and the *allotype* were taken at the same time and place.

Type.—Male, Cat. No. 41063, U.S.N.M.

This form differs from *nimius* Aldrich in the color of the antennae; *dilaticosta* which I described from Arizona is still closer to *nimius*, but seems to differ in the bend of the last section of fourth vein (fig. 67); both *nigricornis* and *dilaticosta* differ in having the bend between second and third joints of middle tarsi much less conspicuous and plain, while in *nimius* the second joint is distinctly but gradually enlarged and smooth on the side with about four bristles at tip, which project into the bend, the third also has a projection on the side near the middle, the apical end of which is abrupt.

POLYMEDON PARTITUS, new species

Male.—Length 4.7 mm. Face and front silvery white, face extending about its width below the eyes; palpi black, rather long; proboscis black; antennae wholly black, first joint not elongated, about as long as third, which is slightly longer than wide; lateral

and inferior orbital cilia whitish, rather long, about four of the upper cilia on each side black, two hairs or bristles next to the proboscis black.

Thorax green with violet reflections; the stripe of silvery white pollen extending from the base of the wings to the front of thorax is wide at the suture, narrow in front. Abdomen green, each segment with a black posterior border and a spot of white pollen on each side; hairs and bristles of thorax and abdomen black. Hypopygium black, its lamellae (fig. 68) triangular, black with a yellow stem, fringed with pale hairs on outer edge and black, clavate bristles on apical margin.

Coxae black with black hair and bristles and yellow tips; femora and tibiae yellow, knees and tips of tibiae of posterior legs infuscated; tarsi black, only a little yellowish at base; middle tarsi with the usual bend between the second and third joints rather small; joints of anterior tarsi as 40-13-12-8-12; of middle ones as 61-32-16-13-14; joints of posterior pair as 46-49-31-19-18. Calypters brown with apical half black, their cilia normal, rather long, black; halteres yellow.

Wings (fig. 69) tinged with brown in front of fifth vein to cross vein, beyond that to fourth vein, hind margin of wing more gray; last section of fourth vein bent at basal third; first section of costa thickened a little on basal portion to a narrow break in the thickening; beyond this break it is much thickened, tapering to the tip.

Female.—Colored as in the male, except that the bases of the calypters are more yellow; face reaching a little below the eyes, rounded below; palpi reaching a little below the face; venation as in the male; wings not quite as brown.

Described from three males and three females taken by J. M. Aldrich, May 1, 1926, at El Salto, Antigua, Guatemala; all paratypes and the allotype were taken at the same time and place.

Type.—Male, Cat. No. 41064, U.S.N.M.

POLYMEDON RUBIGINOSUS, new species

Female.—Length 4 mm. Face white, more yellowish on upper portion, ending in an obtuse point a little below the eyes; front green, opaque with gray pollen in certain lights; palpi brown; proboscis largely white with yellow hairs; lower orbital cilia whitish.

Thorax and scutellum blue-green, the latter with a coppery spot on each side, dorsum of thorax covered with rather abundant brown pollen, which is very conspicuous when viewed from in front; a velvety black stripe above the root of the wing and a silvery stripe from the wing to the humeri, both conspicuous when viewed from the right direction. Abdomen blue-green, with obscure black pos-

terior margins to the segments and small spots of white pollen on the sides.

Fore coxae wholly yellow, with conspicuous black hair on anterior surface and black bristles at tip; middle and hind coxae black, with their tips narrowly yellowish; femora and tibiae yellow, posterior tibiae narrowly black at tip; middle tibiae with a row of bristle-like hairs on lower anterior edge, these hairs are not as long as diameter of the tibia; fore and middle tarsi black from the tip of the first joint; posterior tarsi almost wholly black; joints of fore tarsi as 43-13-12-8-11; of middle ones as 54-28-20-12-12; joints of posterior tarsi as 44-44-27-10-14.

Wings (fig. 70) grayish; last section of fourth vein much bent at its middle, its tip before the apex of the wing; last section of fifth vein scarcely as long as the cross vein; third vein only very little bent back at tip; sixth vein rather long, nearly straight, tapering to a point at tip.

Described from a single female taken by J. M. Aldrich, May 25, 1926, at Tamau, Alta Vera Paz, Guatemala.

Type.—Female, Cat. No. 41065, U.S.N.M.

POLYMEDON NOTATUS, new species

Male.—Length 4 mm. Face silvery white, one-fourth the width of the head, nearly flat, reaching down to the lower margin of the eyes, its sides nearly parallel, lower edge rounded; front covered with silvery white pollen, a little wider than the face; palpi and proboscis black; occiput black, when viewed from the rear it shows two large, conspicuous spots of white pollen separated by the black ocellar tubercle; antennae wholly black, third joint a little longer than wide, somewhat conical in outline; arista black, pubescent, rather thick, one-fourth longer than the antenna; orbital cilia yellowish white below.

Dorsum of thorax dark shining green with a large spot of silvery white pollen at the suture; scutellum a little more coppery; pleurae and coxae covered with thin silvery white pollen; abdomen black with slight green reflections, dulled with white pollen and with spots of the same on the sides of the segments. Hypopygium black, its outer lamellae black, rather large, somewhat round in outline with a short petiole, they have a fringe of long black hairs on the edge, which are somewhat concentric with the lamellae; the inner appendages are a pair of black, hooked organs and two pairs of yellow bristles; the central organ is inserted at the base of the hypopygium and with its sheath is black at base, suddenly narrowed, sharply pointed at tip, pale yellow from near the middle, very slender and reaching a little beyond the end of the hypopygium.

All coxae, femora, apical third of posterior tibiae, the fore and middle tarsi from the tip of first joint and the whole of hind tarsi black; tips of fore femora and all tibiae yellow; trochanters yellow; femora with short hair, no longer ones below; fore tibiae without bristles below; middle tibiae with three bristles on lower anterior surface; posterior tibiae with rather long hair below and numerous large bristles above; posterior basitarsi with a large bristle near the base below, which is not erect, and with spurs at the tips of the joints; joints of fore tarsi as 35-11-8-8-10; of middle ones as 46-25-21-12-13; joints of posterior ones as 40-40-30-18-16. Calypters black with rather long black cilia, which are inclined to cluster into one mass. Halteres yellow.

Wings tinged with brown, darkest along the veins; costa much swollen opposite the middle of first vein and a little thickened opposite the base of third vein; third vein nearly straight, but very slightly arched; last section of fourth vein bent at its middle, beyond this bend it is arched so as to approach third at tip, reaching the wing margin some distance before the apex of the wing; cross vein 22, last section of fifth vein thirty-one fiftieths of a millimeter long.

Described from one male, taken by J. M. Aldrich, May 25, 1926, at the head of the Polochic River, Alta Vera Paz, Guatemala.

Type.—Cat. No. 41066, U.S.N.M.

Genus SARCIONUS Aldrich

Sarcionus ALDRICH, *Biología*, Dipt., vol. 1, 1902, p. 341; *Kansas Univ. Sci. Bull.*, vol. 1, 1902, p. 47; *Trans. Amer. Ent. Soc.*, vol. 30, 1904, p. 273.

SARCIONUS MACULATUS, new species

Male.—Length 3 mm. Face moderately wide, silvery white, not reaching the lower margin of the eyes; front blue with brownish pollen; palpi and proboscis brown; antennae yellow, third joint very small, shorter than wide, the arista dorsal, broken in the male but still having several long hairs, in the female long plumose; lateral and inferior orbital cilia yellowish.

Thorax and abdomen dark green, not very shining; thorax with an indistinct coppery vitta; the spot of white pollen at the suture small. Hypopygium black with the lower surface yellowish, its petiole long and quite slender; the lamellae oval, moderately large, whitish with a large, dark brown, apical spot; between the lamellae are small yellow inner appendages and basally from these are black, hooklike appendages; the central organ is reddish yellow and curved.

Fore coxae wholly yellow with small black hairs and several black bristles; middle and hind coxae black; all femora and tibiae yellow; tibiae without bristles below; hairs on all femora short, black, no longer ones below; fore tarsi yellow with the extreme tips of the

joints brown; middle and hind tarsi brown from the tip of the first joint; joints of fore tarsi as 41-18-16-5-8; of middle ones as 44-26-20-10-9; joints of posterior pair as 36-45-30-18-12. Calypters and halteres yellow, the former with black cilia.

Wings gray, rather narrow; first vein reaching half way to the cross vein; third vein straight; last section of fourth vein abruptly bent beyond its middle, then arched so as to be parallel with third vein and running quite close to it for some distance at tip; cross vein 19, last section of fifth vein eighteen-fiftieths of a millimeter long.

Female.—Face about twice as wide as in the male and with its sides parallel; third antennal joint mostly brown; palpi and proboscis yellowish; middle tibiae with two bristles below; otherwise about as in the male.

Described from one male and one female taken by J. M. Aldrich, May 7, 1926, at Quirigua, Guatemala.

Type.—Male, Cat. No. 41069, U.S.N.M.

Genus PELASTONEURUS Loew

Pelastoneurus LOEW, Neue Beitr., vol. 8, 1861, p. 36; Mon. North Amer. Diptera, pt. 2, 1864, p. 103, table of species.—ALDRICH, Kansas, Univ. Quart., vol. 2, 1893, p. 152; Biologia Central Amer., Diptera, vol. 1, 1901, p. 336, table of Mexican species; Kansas Univ. Sci. Bull., vol. 1, 1902, p. 47, table of species.—WHEELER, Proc. California Acad. Sci., vol. 2, 1896, p. 11, table of species.—VAN DUZEE, Ann. Ent. Soc. Amer., vol. 16, 1923, p. 44, table of species.

PELASTONEURUS CAERULEUS Van Duzee

Pelastoneurus caeruleus VAN DUZEE, Annals Ent. Soc. of America, vol. 16, 1923, p. 37.

This species was described from Guatemala. J. M. Aldrich took two males, May 1, 1926, at El Salto, Antigua; one female, May 7, at Quirigua; and three females, April 14 and 16, at La Providencia, Obispo, all in Guatemala. Nathan Banks took one female, August 8, 1924, at Bella Vista, Panama.

PELASTONEURUS MACULITIBIA, new species

Male.—Length, 4.2 mm. Face wide, grayish white, more white below, suture below the middle; front violet on the sides, blackish in the middle; palpi black with a narrow yellow margin; antennae black, first two joints very slightly reddish yellow below, third joint nearly circular, not quite as long as wide; arista feathered with long hairs; lateral and inferior orbital cilia silvery white.

Dorsum of thorax shining brown with green reflections, dulled with brown pollen; pleurae more black with silvery-white pollen;

posterior slope of thorax with thin white pollen; the usual velvety black stripe above the root of the wing and the silvery spot at the suture indistinct. Abdomen green, incisures and hair black, its dorsum with considerable white pollen, spots of white pollen on the sides of the segments, last segment wholly white pollinose. Hypopygium moderately large, nearly sessile, black, dulled with white pollen, lamellae elongate, rounded at tip, fringed with long black hairs, nearly half as long as the hypopygium.

All coxae, more than half of posterior surface of fore femora, narrow tips of posterior femora and all tibiae and tarsi black; trochanters, remainder of fore femora, middle and hind femora, lower surface of fore tibiae, middle basitarsi except tip, and three or four elongated spots on upper edge of each middle and hind tibia yellow; fore tarsi (fig. 71) with one claw enlarged to form a grasping organ; joints of fore tarsi as 22-97-7-11; claw as 10; joints of middle tarsi as 39-21-18-15-12; those of posterior pair as 31-39-30-18-16. Calypters and halteres yellow, the former with black cilia.

Wings grayish; third vein nearly straight; last section of fourth vein arched from the cross vein to its tip, which is close to the tip of third vein and in front of the apex of the wing.

Described from two males and three females; one male, the type, was taken at El Salto, Antigua, Guatemala, May 1, 1926; the rest at San Cristobal, Alta Vera Paz, Guatemala, May 17, 1926; all were collected by J. M. Aldrich.

Type.—Male, Cat. No. 41070, U.S.N.M.

This is very nearly like *unquiculatus* Aldrich and *nigrifacies* Van Duzee; from the latter it differs in having the face wholly pollinose; from the former in having the face wholly without the median longitudinal depressed line, which is so conspicuous in *unquiculatus*.

PELASTONEURUS ACUTICAUDA, new species

Male.—Length 2.3 mm. Face wide, silvery white, its sides parallel, the suture near the middle, lower edge nearly straight; palpi and proboscis black; front bluish, dull with gray pollen; antennae (fig. 72) yellow, first joint narrowly brown above, third joint mostly brown, about as long as wide, rounded; lateral and inferior orbital cilia white.

Dorsum of thorax brown, with slight purple reflections and brown pollen, quite shining; the velvety black stripe above the root of the wing not very conspicuous, the spot of white pollen at the suture prominent; pleurae green with white pollen. Abdomen blackish metallic with green and coppery reflections and spots of white pollen on the sides of the segments. Hypopygium (fig. 73) black, its

lamellae long and narrow, black, yellow at base, fringed with long hairs.

Coxae, femora, tibiae, and fore tarsi wholly yellow; middle and hind tarsi brown, more yellow at base; joints of fore tarsi as 20-9-7-6-5; of middle ones as 25-16-14-10-8; joints of posterior pair as 23-32-21-15-11. Calypters and halteres yellow, the former with rather long black cilia.

Wings grayish; third vein a little arched; last section of fourth vein bent at forty-fiftieths of a millimeter beyond the cross vein, beyond this bend it is thirty-fiftieths to wing margin and a very little arched, its tip before the apex of the wing; last section of fifth vein 23, cross vein twelve-fiftieths of a millimeter long; cross vein slightly oblique; hind margin of wing scarcely indented at tip of fifth vein.

Described from one male taken by J. M. Aldrich, May 1, 1926, at El Salto, Guatemala.

Type.—Male, Cat. No. 41071, U.S.N.M.

PELASTONEURUS FUSCIPENNIS, new species

Female.—Length, 3 mm. Face wide, brown pollinose with a narrow edge of white pollen along the orbits and extending to the tip, the suture very high, making the lower portion about twice as long as upper part, it is very bulging and quite pointed at tip, extending nearly or quite to the lower corner of the eyes; palpi large, brown, covered with whitish pollen and black hair; front with the brown pollen of the face extending up to the ocellar tubercle, the tubercle and a narrow band on the orbits blue-black; lateral and inferior orbital cilia yellowish white; antennae yellow, most of third joint and arista brown; arista feathered with long scattering hairs.

Thorax wholly black, in the type somewhat shining. Abdomen black, metallic, posterior half of the segments a little coppery, dorsum dulled with brown pollen, sides of segments with spots of white pollen.

Fore coxae and all femora, tibiae and basitarsi yellow, all tarsi black from the tip of the first joint; middle and hind coxae black; joints of fore tarsi as 29-13-9-6-8; of middle ones as 38-20-18-10-10; first two joints of posterior tarsi as 29-39. Calypters and halteres brownish yellow, apical half or more of the knobs of the halteres yellow, cilia of the calypters black.

Wings tinged with blackish, posterior cells a little lighter, cross vein and a spot on bend of fourth vein darker; last section of fifth vein, if extended to the wing margin, would be 22, cross vein nineteen-fiftieths of a millimeter long; last section of fourth vein from the cross vein to the bend 35, from the bend to tip of fourth vein at wing

margin forty-sixth fiftieths, this portion of fourth vein nearly straight and ending considerably before the apex of the wing; third vein arched so its tip is close to that of fourth; posterior margin of wing distinctly notched at tip of fifth vein.

Described from one female, taken by W. A. Kellerman, at Los Amates, Guatemala.

Type.—In the Museum of Comparative Zoölogy.

This female can be recognized by the long lower part of the face, which is mostly brown, the black wings, yellow antennae and pale orbital cilia.

PELASTONEURUS PECTINATUS, new species

Male.—Length 4.7 mm. Face silvery white with the green ground color showing through on upper fourth, wide, its sides nearly parallel, the suture below the middle; palpi black with a yellow margin, covered with white pollen and black hair; antennae yellow, third joint mostly brown, about as long as wide, rounded at tip; lateral and inferior orbital cilia white, the longer bristles under the head yellow.

Dorsum of thorax blue-green with a median bronze stripe, anterior portion of thorax more coppery; pleurae green, covered with white pollen; the velvety black stripe above the root of the wing and the silvery white spot at the suture not very distinctly limited, a very small spot of white pollen on posterior angles of thorax. Abdomen shining green; posterior margins of segments narrowly black; large spots of white pollen on the sides of the segments; last segment wholly white pollinose. Hypopygium large, scarcely petiolate, black, dulled with white pollen, its lamellae (fig. 74) black with a row of blunt black bristles along the edge and several long hairs near the base.

Fore coxae, all femora and tibiae wholly yellow; middle and hind coxae black with narrow yellow tips; middle tibiae with one large bristle below near apical fourth and one on anterior surface before the middle; fore tarsi yellow with the fifth joint brown; middle and hind tarsi mostly brown or blackish; joints of fore tarsi as 33-19-17-13-12; of middle ones as 50-32-24-15-11; joints of posterior pair as 36-47-34-21-15. Calypters and halteres yellow, the former with black cilia.

Wings grayish, almost brownish; third vein nearly straight; fourth vein bent near the middle of its last section, a little arched beyond the bend, reaching the wing margin before the apex of the wing; last section of fifth vein, if continued to wing margin would be 29, cross vein nineteen-fiftieths of a millimeter long; hind margin of wing with a small notch at tip of fifth vein.

Female.—Face wider, the pollen grayish white, almost brown on lower portion, its suture a little below the middle, upper part showing some green color below the antennae; front shining blue-green. Color of thorax, legs, feet and wings, and the venation of wings as in the male.

Described from six males and three females, La Providencia, Obispo, Guatemala, April 14; one pair, Quirigua, Guatemala, May 7; and one female, Ingenio R. R. station, near Guatemala City, April 28; all taken by J. M. Aldrich in 1926.

Type.—Male, Cat. No. 41072, U.S.N.M.

This may be something like *asciaeformis* Becker, described from Georgia, but in that species the face and front are both gray pollinose, in this the face is silvery white and the front shining blue-green.

EXPLANATION OF PLATES

PLATE I

- FIG. 1. *Psilopus bilobus*, new species, hypopygium of male.
2. *Psilopus bilobus*, new species, fore tarsus of male.
3. *Psilopus bilobus*, new species, wing of male.
4. *Psilopus longipes*, new species, wing.
5. *Psilopus semicomatus*, new species, hypopygium of male.
6. *Psilopus semicomatus*, new species, fore tarsus of male.
7. *Psilopus planipes*, new species, hypopygium of male.
8. *Psilopus mensor*, new species, fore tarsus of male.
9. *Psilopus mensor*, new species, first two joints of middle tarsus of male.
10. *Psilopus mensor*, new species, hind tarsus of male, top view.
11. *Psilopus mensor*, new species, last four joints of hind tarsus of male, side view.
12. *Psilopus bicoloripes*, new species, hypopygium of male.
13. *Psilopus longipennis*, new species, hypopygium of male.
14. *Psilopus longipennis*, new species, part of middle basitarsus of male.
15. *Psilopus longipennis*, new species, wing of male.
16. *Psilopus cylindricus*, new species, hypopygium of male.
17. *Psilopus augustatus*, new species, hypopygium of male.
18. *Psilopus semiciliatus*, new species, hypopygium of male.
19. *Psilopus semiciliatus*, new species, fore tarsus of male.
20. *Psilopus panamensis*, new species, hypopygium of male.
21. *Psilopus nitidicauda*, new species, hypopygium of male.
22. *Psilopus nitidicauda*, new species, fore tarsus of male.
23. *Psilopus flaviannulatus*, new species, hypopygium of male.
24. *Psilopus clavatus*, new species, hypopygium of male.
25. *Psilopus clavatus*, new species, fore tarsus of male.
26. *Psilopus clavatus*, new species, hind tarsus of male.
27. *Psilopus simulans*, new species, hypopygium of male.
28. *Psilopus simulans*, new species, fore tarsus of male.
29. *Psilopus nitidicauda*, new species, tip of wing.
30. *Sympycnus imperfectus*, new species, fore tarsus of male.
31. *Sympycnus imperfectus*, new species, wing.
32. *Sympycnus longipes*, new species, antenna of male.
33. *Sympycnus longipes*, new species, last two joints of middle tarsus of male.
34. *Sympycnus filiformis*, new species, antenna of male.

PLATE 2

- FIG. 35. *Sympycnus filiformis*, new species, hypopygium of male.
 36. *Sympycnus filiformis*, new species, fore tarsus of male.
 37. *Sympycnus bipilus*, new species, antenna of male.
 38. *Sympycnus bipilus*, new species, hind tarsus of male.
 39. *Nothosympycnus furcatus*, new species, fore tarsus of male.
 40. *Nothosympycnus furcatus*, new species, middle tarsus of male.
 41. *Nothosympycnus unipilus*, new species, fore tarsus of male.
 42. *Neurigona banksi*, new species, hypopygium of male.
 43. *Neurigona maculipennis*, new species, hypopygium of male.
 44. *Thinophilus panamensis*, new species, hypopygium of male.
 45. *Medetera abrupta* Van Duzee, fore tarsus of male.
 46. *Medetera varipes*, new species, fore tarsus of male.
 47. *Medetera pollinosa*, new species, fore tarsus of male.
 48. *Medetera pollinosa*, new species, last two joints of same.
 49. *Medetera flavipes* Van Duzee, fore tarsus of male.
 50. *Medetera scaura*, new species, fore tarsus of male.
 51. *Medetera pallidicornis*, new species, hypopygium of male.
 52. *Medetera pollinosa*, new species, hypopygial lamella of male.
 53. *Thrypticus acuticauda*, new species, hypopygium of male.
 54. *Chrysotus contractus*, new species, middle leg of male.
 55. *Paraclius latitibia*, new species, fore tibia of male.
 56. *Paraclius fusiformis* Becker, hypopygial lamella of male.
 57. *Paraclius fusiformis*, fore tibia of male.
 58. *Paraclius fusiformis*, middle tarsus of male.
 59. *Paraclius acuticornis*, new species, antenna of male.
 60. *Paraclius acuticornis*, antenna of female.
 61. *Polymedon transversus*, new species, hypopygium of male.
 62. *Polymedon nigricornis*, new species, antenna of male (inverted).
 63. *Polymedon nigricornis*, hypopygial lamella, showing the flattened bristles on inner surface.
 64. *Polymedon nigricornis*, same, showing the lamella with the flattening of bristles concealed.
 65. *Polymedon nigricornis*, second and third joints of middle tarsus of male, side view.
 66. *Polymedon nigricornis*, wing of male.
 67. *Polymedon dilaticosta* Van Duzee, wing of male.
 68. *Polymedon partitus*, new species, hypopygial lamella of male.
 69. *Polymedon partitus*, wing of male.
 70. *Polymedon rubiginosus*, new species, wing of female.
 71. *Pelastoneurus maculitibia*, new species, fore tarsus of male.
 72. *Pelastoneurus acuticauda*, new species, antenna of male.
 73. *Pelastoneurus acuticauda*, hypopygium of male.
 74. *Pelastoneurus pectinatus*, new species, hypopygial lamella of male.
 75. *Keirosoma albicinctum*, new species, antenna of male.
 76. *Keirosoma albicinctum*, tip of abdomen.
 77. *Oedematopus crassitibia*, new species, abdomen of male.
 78. *Oedematopus crassitibia*, posterior leg of male.